DAEWOO

Service Manual

Microwave Oven

Model: KOR-618M/Q(0P)

KOR-619M/Q(0P)

DAEWOO ELECTRONICS CO., LTD.

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with door open.

(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary : (1) Interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches (5) evidence of dropping or abuse.

(c) Before turning on microwave power for any service test or inspection within the microwave gernerating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, intergrity, and connections.

(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave gernera-tion and transmission systems shall be repaired, or adjusted by procedures described in this manual before the oven is released to the owner.

(e) A micrewave leakage check to verify compliance with the Federal Performance Standard should be per-formed on each oven prior to release to the owner.

TABLE OF CONTENTS

PROPER USE AND SERVICE PRECAUTIONS 2
SPECIFICATIONS 3
FEATURES DIAGRAM 4
EARTHING INSTRUCTIONS 5
INSTALLATION 5
OPERATION PROCEDURE 6
CONTROLS 7
INTERLOCK MECHINISM FUNCTIONS AND ADJUSTMENTS 22
MEASUREMENT OF THE MICROWAVE OUTPUT POWER 24
MICROWAVE RADIATION TEST 24
WIRING DIAGRAM 25
CIRCUIT DESCRIPTION 26
SAFETY PRECAUTIONS FOR DISASSEMBLY AND REPAIR 27
DISASSEMBLY AND ASSEMBLY 30
TROUBLE SHOOTING GUIDE 35
COMPONENT TEST PROCEDURE 42
SAFETY INTERLOCK CONTINUITY TEST 43
PRINTED CIRCUIT BOARD 44
- CIRCUIT CHECK PROCEDURE 44
- P.C.B. CIRCUIT DIAGRAM 49
- COMPONENT INFORMATION 50
- PRINTED CIRCUITS BOARD 51
- P.C.B. LOCATION NO 52

EXPLODED AND PARTS LIST 53

CAUTION : This Device is to be Serviced Only by Properly Qualified Service Personnel. Consult the Service Manual for Proper Service Procedures to Assure Continued Safety Operation and for Precautions to be Taken to Avoid Possible Exposure to Excessive Microwave Energy.

PROPER USE SERVICE PRECAUTIONS

1. FOR SAFE OPERATION

Damage that allows the microwave energy (that cooks or heats the food) to escape will result in poor cooking and may cause serious bodily injury tok the operator.

IF ANY OF THE FOLLOWING CONDITIONS EXIST. OPERATOR MUST NOT USE THE APPLIANCE. (Only a trained service personnel should make repairs.)

1) A broken door hinge.
2) A broken door viewing screen.
3) A broken front panel, oven cavity.
4) A loosened door lock.
5) A broken door lock.

The door gasket plate and oven cavity surface should be kept clean.

No grease, soil or spatter should be allowed to build up on these surfaces or inside the oven.

DO NOT ATTEMPT TO OPERATE THIS APPLIANCE WITH THE DOOR OPEN. The microwave Oven has concealed switches to make sure the power is turned off when the door is opened. Do not attempt to defeat them.

DO NOT ATTEMPT TO SERVICE THIS APPLIANCE UNTIL YOU HAVE READ THIS SERVICE MANUAL.

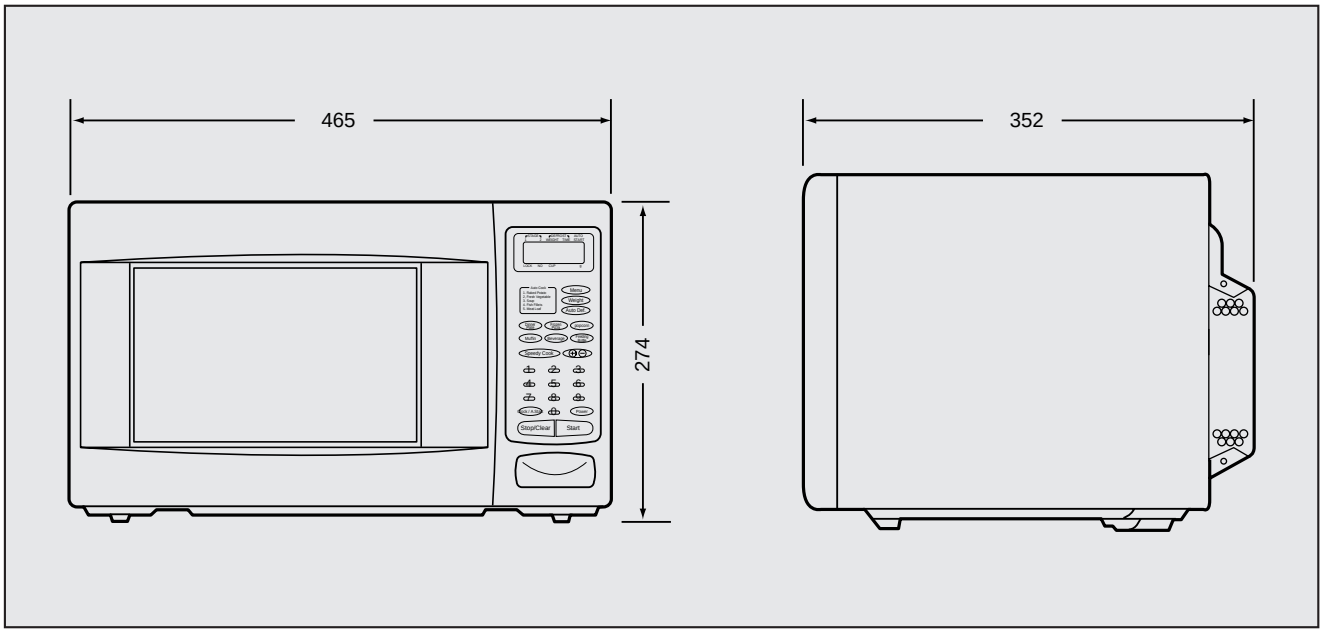
2. FOR SAFE SERVICE PROCEDURES

1) If the oven is operative prior to servicing, a microwave emission check should be performed prior to servicing the oven.
2) If any certified oven unit is found to have excessive emission level 5mW/cm^2, the service person should:
   (a) inform the manufacturer, importer or assembler,
   (b) repair the unit at no cost to the owner,
   (c) attempt to ascertain the cause of the excessive leakage,
   (d) tell the owner of the unit not to use the unit until the oven has been brought into compliance.
3) If the oven operates with the door open, the service person should tell the user not to operate the oven and contact the manufacturer and CDRH immediately.

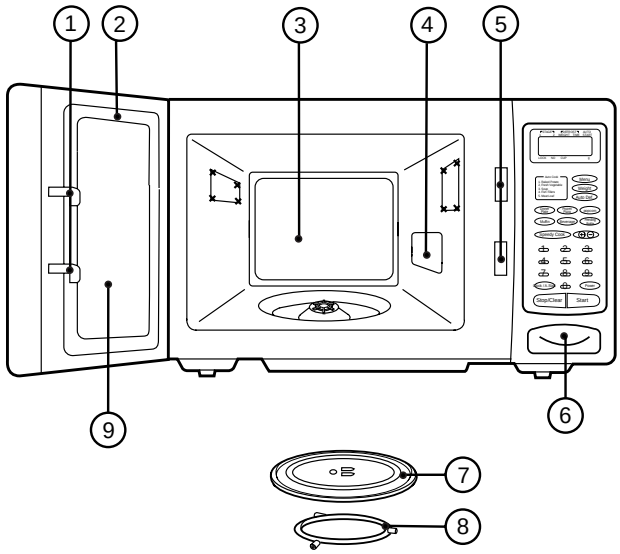
SPECIFICATIONS

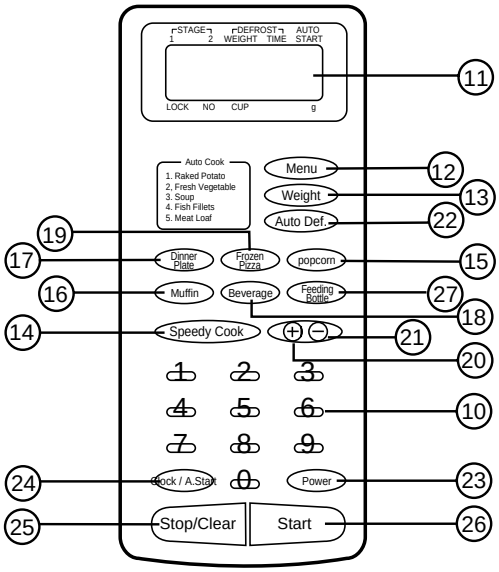
ITEM		SPECIFICATION
POWER SUPPLY		220V~60Hz, SINGLE PHASE WITH EARTHING
MICROWAVE	POWER CONSUMPTION	950 W
	OUTPUT POWER	600 W (IEC 705)
	FREQUENCY	2450 MHz
OUTSIDE DIMENSIONS (W x H x D)		465 x 274 x 352 mm
CAVITY DIMENSIONS (W x H x D)		290 x 200 x 290 mm
NET WEIGHT		APPROX. 13.5kg
TIMER		59 min. 99 sec.
MICROWAVE POWER LEVELS		10 – LEVELS

** Specifications are subject to change without notice.*



FEATURES DIAGRAM : M-TYPE





① **Door latch**–When the door is closed it will automatically lock shut. If the door is opened while the oven is operating. The magnetron will automatically shut off.

② **Door seal**–The door seal maintains the microwave within the oven cavity and prevents microwave leakage.

③ **Oven cavity.**

④ **Spatter shield**–Protects the microwave outlet from splashes of cooking foods.

⑤ **Safety interlock system**–Prevents the oven from operating while the door is opened.

⑥ **Door release button**–Pushing this button stops oven operation and opens the door.

⑦ **Glass cooking tray**–Made of special heat resistant glass. The tray must always be in proper position before operating. Do not cook food directly on the tray.

⑧ **Roller guide**–Supports the glass cooking tray.

⑨ **Door screen**–Allows the glass cooked tray.

⑩ **Time set pad**–Used to set the cooking time and the present time

⑪ **Display**–Cooking time, power level, present time are displayed.

⑫ **Menu**–Uesd to select foods.

⑬ **Weight**–Uesd to select quantity of foods.

⑭ **Speedy cook**–Touch to set the any desired reheat setting.

⑮ **Popcorn**–Used to cook popcorn.

⑯ **Muffin**–Used to cook muffin.

⑰ **Dinner plate**–Used to reheat dinner plate.

⑱ **Beverage**–Used to reheat beverage.

⑲ **Frozen pizza**–Used to reheat frozen pizza.

⑳ **More**–Used to add on one touch cooking.

㉑ **Less**–Used to add on one touch cooking.

㉒ **Auto defrost**–Used to defrost foods.

㉓ **Power**–Used to set power level.

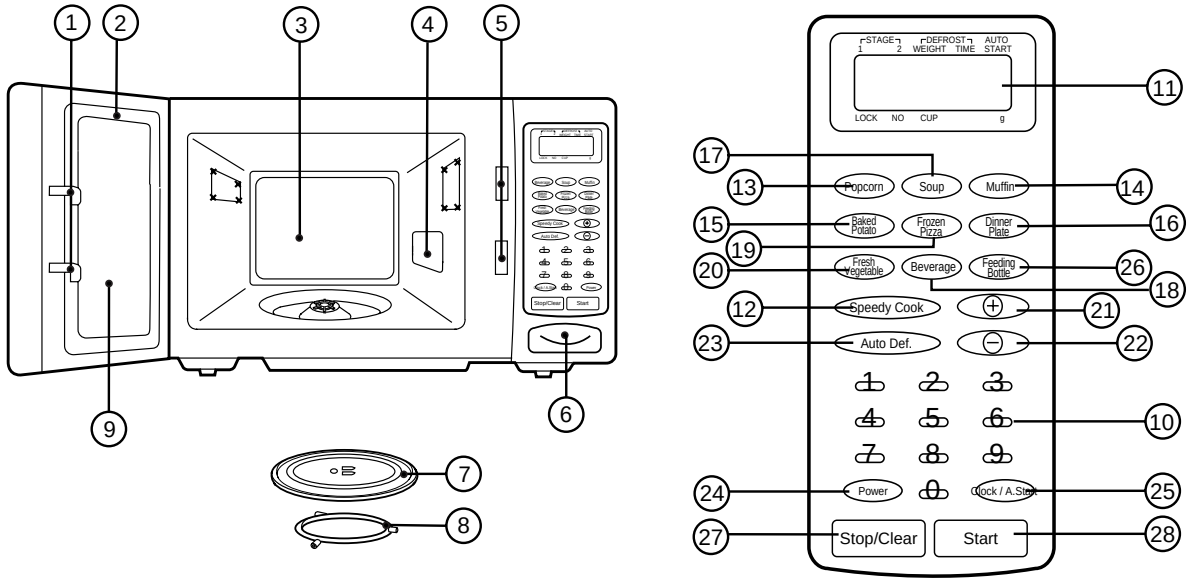
㉔ **Clock/A.start**–Used to set clock & Used to set auto start.

㉕ **Stop/Clear**–User to stop the oven operation or to delete the cooking data.

㉖ **Start**–Used to start a selected operation.

㉗ **Feeding bottle**–Used to sterilize bottle.

FEATURES DIAGRAM : Q-TYPE



① **Door latch**–When the door is closed it will automatically lock shut. If the door is opened while the oven is operating. The magnetron will automatically shut off.

② **Door seal**–The door seal maintains the microwave within the oven cavity and prevents microwave leakage.

③ **Oven cavity.**

④ **Spatter shield**–Protects the microwave outlet from splashes of cooking foods.

⑤ **Safety interlock system**–Prevents the oven from operating while the door is opened.

⑥ **Door release button**–Pushing this button stops oven operation and opens the door.

⑦ **Glass cooking tray**–Made of special heat resistant glass. The tray must always be in proper position before operating. Do not cook food directly on the tray.

⑧ **Roller guide**–Supports the glass cooking tray.

⑨ **Door screen**–Allows viewing of food. The screen is designed so that light can pass through, but not the microwaves.

⑩ **Time set pad**–Used to set the cooking time and the present time

⑪ **Display**–Cooking time, power level, present time are displayed.

⑫ **Speedy cook**–Touch to set the any desired reheat setting.

⑬ **Popcorn**–Uesd to cook popcorn.

⑭ **Muffin**–Used to cook muffin.

⑮ **Baked potato**–Used to baked potato.

⑯ **Dinner plate**–Used to reheat dinner plate.

⑰ **Soup**–Used to reheat soup.

⑱ **Beverage**–Used to reheat beverage.

⑲ **Frozen pizza**–Used to reheat frozen pizza.

⑳ **Fresh vegetable**–Used to blanch fresh vegetable.

㉑ **More**–Used to add on one touch cooking.

㉒ **Less**–Used to remove one touch cooking.

㉓ **Auto defrost**–Used to defrost foods.

㉔ **Power**–Used to set power level.

㉕ **Clock/A.start**–Used to set clock & Used to set auto start.

⑯ **Feeding bottle**–Used to sterilize bottle.

⑰ **Stop/Clear**–Used to stop the oven operation or to delete the cooking data.

⑱ **Start**–Used to start a selected operation.

EARTHING INSTRUCTIONS

This appliance must be earthed. In the event of an electrical short circuit, earthing reduces the risk of electric shock by providing an escape, wire for the electric current. This appliance is equipped with a cord having a earthing wire with a earthing plug. The ploug must be plugged into an outlet that is properly installed and earthed.

WARNING : Improper use of the earthing plug can result in a risk of electric shock. consult a qualified electrician or serviceman if the earthing instructions are not completely understood, or if doubt extension to whether the appliance is properly earthed. If it necessary to use an extension cord, use only a 3-wire extension cord that has a 3-blade earthing plug, and a 3-slot receptacle that will accept the plug on the appliance. The marked rating of the extension cord should be equal to or greater than the electrical rating of the appliance.

INSTALLATION

1 **Steady, flat location**
This oven should be set on a steady, flat surface.
This oven is designed for counter top use only.

2 **Leave space behind and side**
All air vents should be kept a clearance. lf all vents are covered during operation, the oven may overheat and, eventually, oven failure.

3 **Away from Radio and TV sets**
Poor television reception and radio interference may result if the oven is located close to a TV, Radio, or antenna, feeder and so on.
Position the oven as far from them as possible.

4 **Away from heating appliances and water taps**
Keep the oven away from hot air, steam or splash when choosing a place to position it, or the insulation might be adversely affected and breakdowns occur.

5 **Power supply**
- Check uour local power source. This oven requires a current of approximately 5 amperes. 220V 60Hz.
- Power supply cord is about 1.0 meters long.
- The voltage used must be the same as specified on this oven. Using a higher voltage may result in a fire or other accident causing oven damage. Using low voltage will cause slow cooking. We are not responsible for damage resulting from use of this oven with a voltage of ampere fuse other than those specified.
- This appliance is supplied with cable of special type, which, if damaged, must be repaired with cable of same type. such a cable can be purchased from DAEWOO and must be installed by a Qualified Person.

6 **Examine the oven after unpacking for any damage such as:**
QA misaligned door, broken door, A dent in cavity.
If any of the above are visible, DO NOT INSTALL, and notify dealer immediately.

7 **Do not operate the oven if it is colder than room termperature.**
(This may occur during delivery in cold weather.) Allow the oven to become room temperature before operating.

OPERATION PROCEDURE

This section includes useful information about oven operation.

1. Plug power supply cord into a 220V 60Hz power outlet.
2. After placing the food in a suitable container, open the oven door and put it on the glass tray.
   The glass tray must always be in place during cooking.
3. Shut the door. Make sure that it is firmly closed.

1 When the oven door is opened, the light turns off.

2 The oven door can be opened at any time during operation by touching the door release button on the control panel. The oven will automatically shut off. To restart the oven. close the door and then touch START.

3 Each time a pad is touched, a BEEP will sound to acknowledge the touch.

4 The oven automatically cook on full power unless set to a lower opwer level.

5 The display will show " : 0" when the oven is plugged in.

6 Time clock returns tol the present time when the cooking time ends.

7 When the STOP/CLEAR pad is touched during the oven operation, the oven stops cooking and all information retained. To erase all information retained. To erase all information (except the present time), touch the STOP/CLEAR pad once more. If the oven door is opened during the oven operation, all information is retained.

8 If the START pad is touched and the oven does not operate, check the area between the door and door is closed securely. The oven will not start cooking until the door is completely closed or the program has been reset.

Make sure the oven is properly installed and plugged into the electrical outlet.

WATTAGE OUTPUT CHART

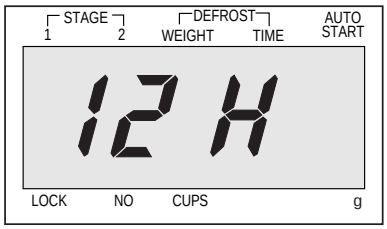
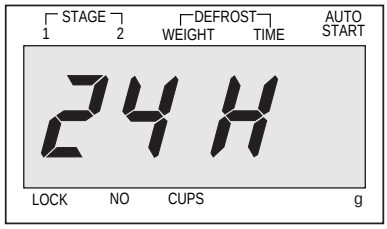
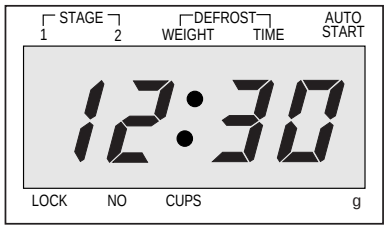
The power-level is set by pressing the POWER pad. The chart shows the display, the power level and the percentage of power.

Touch Power pad, Once the touch	Power Level (Display)	Approximate Percentage of Power
POWER	P-HI	100%
9	P-90	90%
8	P-80	80%
7	P-70	70%
6	P-60	60%
5	P-50	50%
4	P-40	40%
3	P-30	30%
2	P-20	20%
1	P-10	10%
0	P-00	0%

CONTROLS

SETTING THE CLOCK

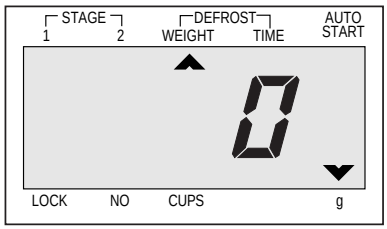
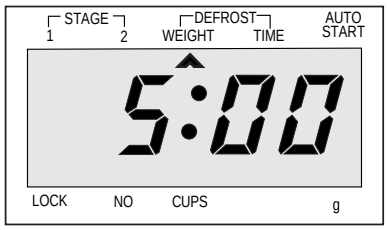
When the oven is first plugged in, the display will flash " : 0" and a tone will sound. If the AC power ever goes off, the display will flash " : 0" when the power comes back on.

DO THIS	THIS HAPPENS...	
CLOCK/ A.START 1. Touch **CLOCK / A.START** pad.		This is a 12 hour clock system.
CLOCK/ A.START 2. Touch **CLOCK/A.START** pad once more.		This is a 24 hour clock system. **NOTE :** This oven is multiple clock system. If you want 12 hour clock system, can be omitted this step.
1 2 3 0 3. Enter the correct time of day by touching the numbers in sequence.		The display will then begin blinking.
CLOCK/ A.START 4. Touch **CLOCK/A.START** pad.		The display stop blinking and the colon starts blinking. If you selected 12 hour clock system this digital clock allows you to set from 1:00 to 12:59. If you selected 24 hour clock system, this digital clock allows you to set from 0:00 to 23:59

NOTE : If you attempt to enter an incorrect time, the time will not be set and a error signal tone will sound. Touch the CLOCK/A.START pad re-enter the time.

WEIGHT DEFROSTING

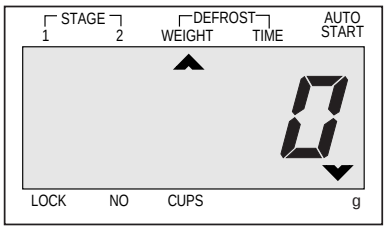
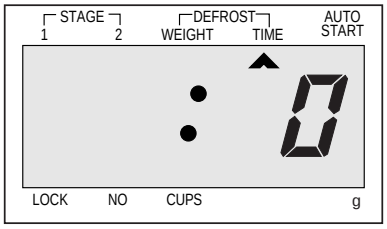
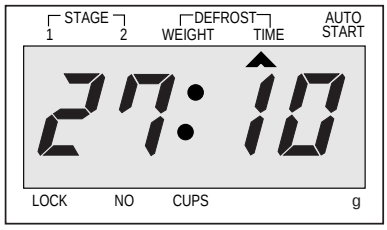
WEIGHT DEFROST lets you easily defrost food by eliminating guesswork in determining defrosting time. The minimum weight for WEIGHT DEFROST is 200 grams. The maximum weight for WEIGHT DEFROST is 3000 grams. Follow the steps below for easy defrosting.

DO THIS	THIS HAPPENS...
AUTO DEFROST 1. Touch **AUTO DEFROST** pad.	 The WEIGHT DEFROST indicator lights and “0” is displayed. And the g indicator starts blinking.
5 0 0 2. Touch number pads for the defrosting weight you want.	 The display will show the numbers you pressed in the order you touched.
START 3. Touch **START** pad.	WEIGHT DEFROSTING begins. The defrosting time is automatically determined by the food category and weight entered. The g indicator goes off and the WEIGHT DEFROST indicator blinks and the defrosting time counts down in the display window. The oven beeps during the defrosting cycle to signal that the food needs to be turned or rearranged. When the defrosting time ends, you will hear 3 beeps.

NOTE : To prevent over defrosting thin areas or edges can be shielded with strips of aluminum foil.

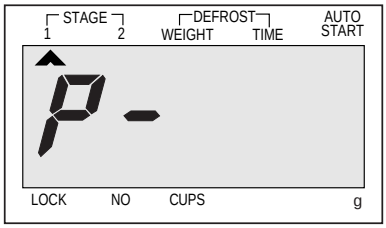
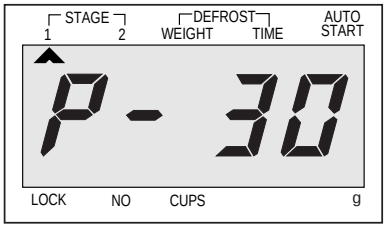
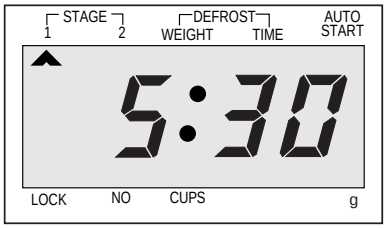
TIME DEFROSTING

When TIME DEFROST is selected, the automatic cycle divides the defrosting time into periods of alternating defrost and stand times by cycling on and off.

DO THIS	THIS HAPPENS...	
AUTO DEFROST 1. Touch **AUTO DEFROST** pad.		The WEIGHT DEFROST indicator lights and “0” is displayed. And the g indicator starts blinking.
AUTO DEFROST 2. Touch **AUTO DEFROST** pad once more.		The TIME DEFROST indicator lights and “ : 0” is displayed.
2 7 1 0 3. Touch number pads for the defrosting time you want.		The display will show the numbers you pressed in the order you touched. **NOTE :** Your oven can be programmed for 59 minutes 99 seconds. (59:99)
START 4. Touch **START** pad.	When you touch START pad, the TIME DEFROST indicator starts blinking to show the oven is in the TIME DEFROST mode. The display counts down the time to show you how much defrosting time is left in the TIME DEFROST mode. The oven beeps during the defrosting cycle to signal that the food needs to be turned or rearranged. When the defrosting time ends, you will hear 3 beeps.	

NOTE : To prevent over defrosting, thin areas or edges can be shielded with strips of aluminum foil.

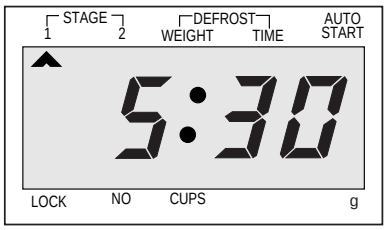
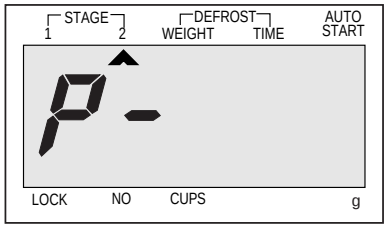
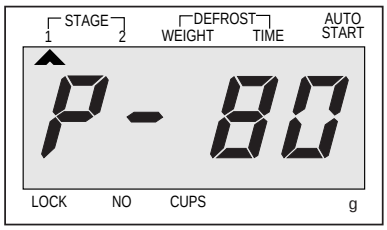
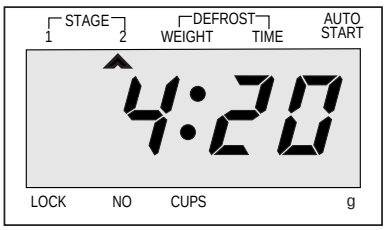
COOKING IN ONE STAGE

DO THIS...	THIS HAPPENS...	
POWER 1. Touch **POWER** pad.		The STAGE1 indicator lights and "P- " is displayed.
3 2. Touch the number pad for the power level you want.		The display will show what you touched. This example shows power level 3. **NOTE:** If steps 1 and 2 are omitted, the oven will cook at full power.
5 3 0 3. Touch number pads for the cooking time.		The display will show the numbers you pressed in the order you touched. **NOTE:** Your oven can be programmed for 59 minutes 99 seconds. (59:99)
START 4. Touch **START** pad.	When you touch START pad, the M/W indicator starts blinking to show the oven is cooking. The display counts down the time to show how much cooking time is left. When the cooking time ends, you will hear 3 beeps.	

NOTE: Using lower power levels increase the cooking time which is recommended for foods such as cheese, milk and slow cooking of meats.

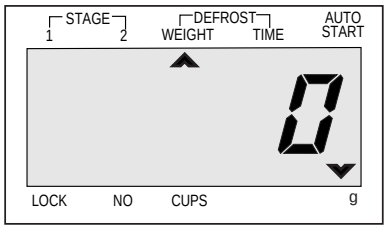
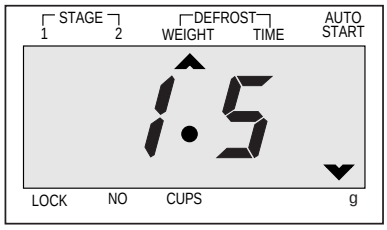
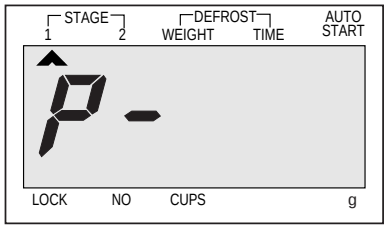
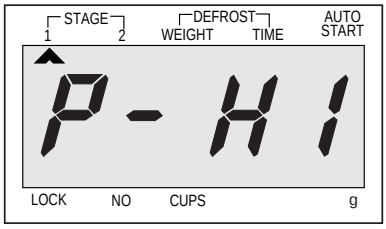
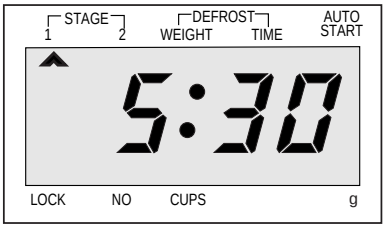
COOKING IN TWO STAGES

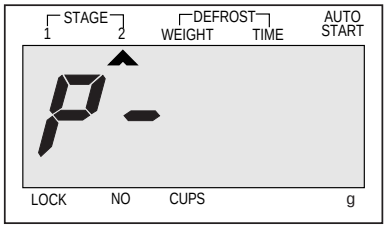
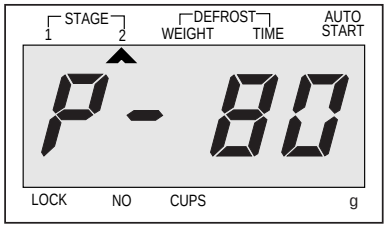
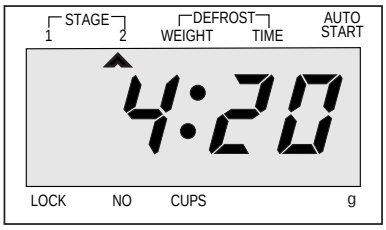
For best results, some recipes call for one Power Level for a certain length of time and another power level for a different length of time.
Your microwave oven can be set to change from one to another.

DO THIS...	THIS HAPPENS...	
5 3 0 1. Touch number pads for the cooking time you want in the first stage.		The STAGE1 indicator lights and the display will show the numbers you pressed in the order you touched. This example shows 5 minutes 30 seconds at full power.
POWER 2. Touch **POWER** pad.		The STAGE2 indicator lights and "P-" is displayed.
8 3. Touch the number pads for the power level you want in the second stage.		The display will show what you touched.
4 2 0 4. Touch the number pads for the cooking time you want in the second stage.		The display will show the numbers you pressed in the order you touched. This example shows 4 minutes 20 seconds at power level 8.
START 5. Touch **START** pad.		When you touch START pad, both STAGE1 & 2 indicator lights come on, STAGE1 indicator light starts blinking to show you that the over is cooking in the first of two cook stages. The oven will cook at the power you selected for stage one. At the end of stage one, the oven will beep and start stage two, the STAGE1 indicator goes off and the STAGE2 indicator starts blinking. The display counts down the time remaining in stage two when stage two ends, you will hear 3 heeps.

WEIGHT DEFROSTING AND COOKING IN TWO STAGES

Some recipes require frozen foods to be thawed before cooking.
This oven can be programmed to automatically defrost foods before cooking.

DO THIS...	THIS HAPPENS...	
AUTO DEFROST 1. Touch **AUTO DEFROST** pad.		The WEIGHT DEFROST indicator lights and “0” is displayed. And the g indicator starts blinking.
5 0 0 2. Touch number pads for the defrosting weight you want.		The display will show the numbers you pressed in the order you touched.
POWER 3. Touch **POWER** pad.		The STAGE1 indicator lights and “P-” is displayed.
POWER 4. Touch **POWER** pad once more.		“P-HI” will appear in the displayed. This example shows full power (100%)
5 3 0 5. Touch number pads for the cooking time you want in the first stage.		The display will show the numbers you pressed in the order you touched. This example shows 5 minutes 30 seconds at full power.

DO THIS...	THIS HAPPENS...	
POWER 6. Touch **POWER** pad.		The STAGE2 indicator lights and "P-" is displayed.
8 7. Touch the number pads for the power level you want in the second stage.		The display will show what you touched.
4 2 0 8. Touch the number pads for the cooking time you want in the second stage.		The display will show the numbers you pressed in the order you touched. This example shows 4 minutes 20 seconds at power level 8.
START 9. Touch **START** pad.	When you touch START pad, the WEIGHT DEFROST, STAGE1 and STAGE2 indicators come on to confirm the power levels selected. The WEIGHT DEFROST indicator starts blinking to show you that the oven is in WEIGHT DEFROST mode. The display counts down the time remaining in WEIGHT DEFROST mode. Turn over, break a part and redistribute at a beep. At the end of WEIGHT DEFROST mode, the oven will beep and start stage one. The WEIGHT DEFROST indicator goes off and the STAGE1 indicator starts blinking. The display counts down the time remaining in stage one. At the end of stage one, the oven will beep and start stage two. The STAGE1 indicator goes off and the STAGE2 indicator starts blinking. The display counts down the time remaining in stage two when stage two ends, you will hear 3 beeps.	

AUTO START

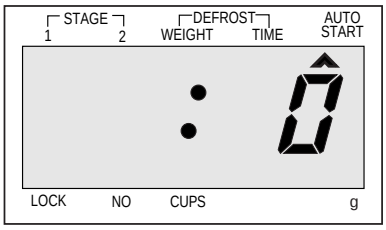
Allows you to program cooking to start at a time you select.
The food will automatically start cooking at the desired time.
Program is able up to 2 stages (no acceptable DEFROST)

DO THIS... **THIS HAPPENS...**

1. Program the desired power level and cooking time.

CLOCK/ A.START

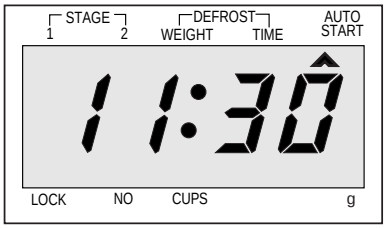
2. Touch **CLOCK/A.START** pad.



The AUTO START indicator lights and " :0" is displayed.

1 1 3 0

3. Enter the desired start time by pressing the number pads.



The display will show the numbers you pressed in the order you touched.
This example shows 11:30

START

4. Touch **START** pad.

When you touch START pad, the present time appears in the display and the cooking program indicators come on.
The AUTO START indicator and the colon start blinking.
When the selected start time arrives the oven bigins. Operating and the oven light turns on. The AUTO START indicator goes off and the next stage indicator begins to blink.
When the cooking is completed you will hear 3 beeps. The oven turns off and the present time appears in the display.

NOTE: AUTO START can be used for time cooking, if clock is set. If the oven door is opened after programming AUTO START, it is necessary to touch the START pad for the time of day to appear in the readout so that the oven will automatically begin programmed cooking at the chosen AUTO START time. Before setting, check to make sure the clock is showing the correct time of day.

TO CHECK AUTO START TIME

Once you have correctly programmed the oven for AUTO START, the present time will appear on the display.

DO THIS...	THIS HAPPENS...
CLOCK/ A.START	The programmed AUTO START time will appear on the display for 3 seconds.

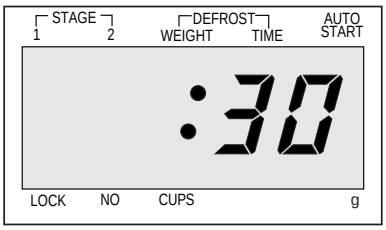
1. Touch **CLOCK/A.START** pad.

SPEEDY COOK

SPEEDY COOK allows you to reheat for 30 seconds at 100% (full power) by simply touching the SPEEDY COOK pad.
By repeatedly touching the SPEEDY COOK pad, you can also extend reheating time to 5 minutes by 30 seconds.

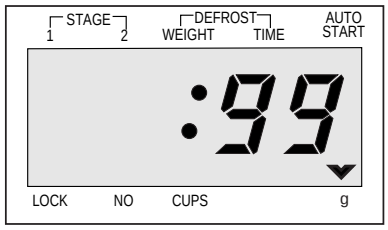
DO THIS...	THIS HAPPENS...
SPEEDY COOK	When you touch SPEEDY COOK, " :30" is displayed. After 1.5 seconds, the oven starts reheating.

1. Touch **SPEEDY COOK** pad.



ONE TOUCH COOKING

One touch cook allows you to cook or reheat many of your favorite foods by touching just one pad. To increase quantity, touch chosen pad until number in display is same as desired quantity to cook. (except for DINNER PLATE)

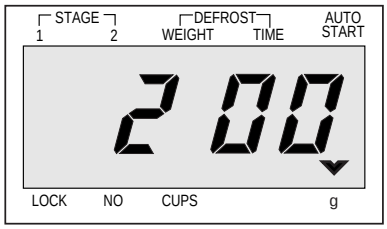
DO THIS...	THIS HAPPENS...
POPCORN 1. Touch **POPCORN** pad.		When you touch POPCORN pad, "99" is displayed. After 1.5 seconds, the display changed into cooking time of quantity and the oven starts cooking.

* **POPCORN** *

- 99g: Touch POPCORN once.
- 50g: Touch POPCORN twice within 1.5 seconds.

NOTE: 1. Use prespackaged room-temperature microwave popcorn.
2. Place bag in oven according to manufacturer's directions.
3. Pop only one bag at a time.
4. After popping, open bag carefully, popcorn and steam are extremely hot.
5. Do not reheat unpopped kernels or reuse bag.
6. Do not leave oven unattended while popping popcorn.

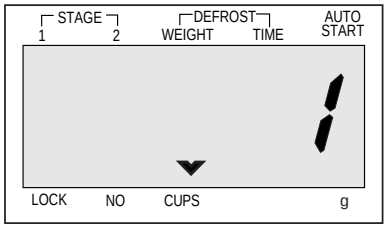
CAUTION: If pre-packaged popcorn is of a different weight then the recommended weight, do not use the popcorn setting, or inadequated popping or a fire may occur. Follow the manufacture's instructions.

DO THIS...	THIS HAPPENS...
FROZEN PIZZA 1. Touch **FROZEN PIZZA** pad.		When you touch FROZEN PIZZA, "200" is displayed. After 1.5 seconds, the display changed into cooking time of quantity and the oven starts cooking.

* **FROZEN PIZZA** *

• 200g: Touch FROZEN PIZZA once.
• 300g: Touch FROZEN PIZZA twice within 1.5 seconds.

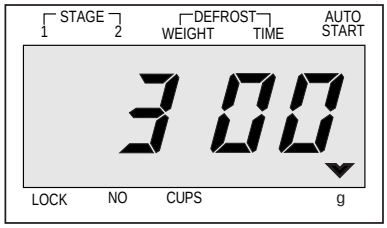
NOTE: 1. Use only one frozen pizza at a time.
2. Use only frozen pizza for microwave oven.
3. If the cheese of frozen pizza does not melt sufficiently, cook a few seconds longer.
4. Some brands of frozen pizza may require more or less cooking time.

DO THIS...	THIS HAPPENS...
BEVERAGE 1. Touch **BEVERAGE** pad.	 When you touch BEVERAGE pad, "1" is displayed. After 1.5 seconds, the display changed into cooking time of quantity and the oven starts cooking.

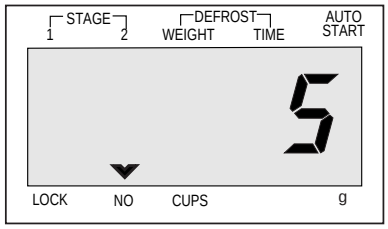
* **BEVERAGE** * **(250ml/cup)**

• 1 cups (mugs): Touch BEVERAGE once.
• 2 cups (mugs): Touch BEVERAGE twice within 1.5 seconds.
• 3 cups (mugs): Touch BEVERAGE three times within 1.5 seconds.

NOTE: 1. This setting is good for restoring cooled beverage to a better drinking temperature.
2. Stir after cooking.

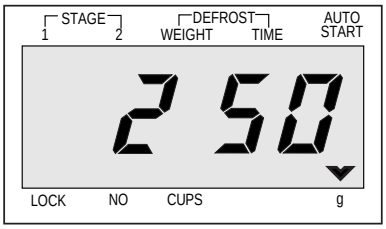
DO THIS...	THIS HAPPENS...	
DINNER PLATE 1. Touch **DINNER PLATE** pad.		When you touch DINNER PLATE pad, “300“ is displayed. After the 1.5 seconds, the display changed into cooking time of quantity and the oven starts cooking.

NOTE: For best results, consult the cookbook.

DO THIS...	THIS HAPPENS...	
MUFFIN 1. Touch **MUFFIN** pad.		When you touch MUFFIN pad, “5” is displayed. After 1.5 seconds, the display changed into cooking time of quantity and the oven starts cooking.

NOTE: For best results, consult the cookbook.

Q-TYPE

DO THIS...	THIS HAPPENS...	
SOUP 1. Touch **SOUP** pad.		When you touch SOUP pad, “250” is displayed. After the 1.5 seconds, the display changed into cooking time of quantity and the oven starts cooking.

* **SOUP** *

- 250g: Touch SOUP once.
- 350g: Touch SOUP twice within 1.5 seconds.

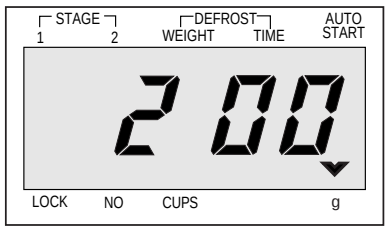
NOTE: For best results, consult the cookbook.

Q-TYPE

DO THIS... **THIS HAPPENS...**

FRESH VEGETABLE

1. Touch **FRESH VEGETABLE** pad.



When you touch FRESH VEGETABLE pad, “200” is displayed. After the 1.5 seconds, the display changed into cooking time of quantity and the oven starts cooking.

* **FRESH VEGETABLE** *

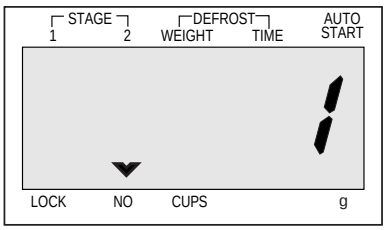
- 200g: Touch FRESH VEGETABLE once.
- 300g: Touch FRESH VEGETABLE twice within 1.5 seconds.

NOTE: For best results, consult the cookbook.

Q-TYPE

BAKED POTATO

1. Touch **BAKED POTATO** pad.



When you touch BAKED POTATO pad, “1” is displayed. After the 1.5 seconds, the display changed into cooking time of quantity and the oven starts cooking.

*** BAKED POTATO * (160~180g/ea)**

- 1 NO (ea.): Touch BAKED POTATO once.
- 2 NO (ea.): Touch BAKED POTATO twice within 1.5 seconds.
- 3 NO (ea.): Touch BAKED POTATO three times within 1.5 seconds.

NOTE: For best results, consult the cookbook.

AUTO COOK (MENU & WEIGHT)

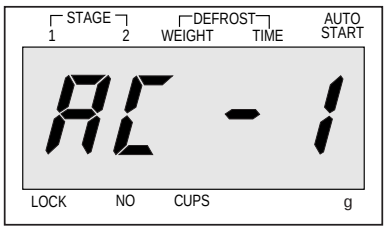
Auto cook allows you to cook or reheat many of your favorite foods by repeatedly touching menu pad.
After the menu selection, touch chosen pad until number in display is same as desired quantity to cook.

M-TYPE

DO THIS... **THIS HAPPENS...**

MENU

1. Touch **MENU** pad.



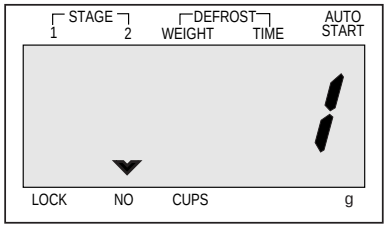
When you touch MENU pad, "AC-1" is displayed.
The display will then begin blinking.
By repeatedly touching this pad, you can select other food category as shown in the chart below.

CATEGORY	FOOD	TOUCH PAD
AC-1	BAKED POTATO	Touch MENU once.
AC-2	FRESH VEGETABLE	Touch MENU twice.
AC-3	SOUP	Touch MENU three times.
AC-4	FISH FILLETS	Touch MENU four times.
AC-5	MEAT LOAF	Touch MENU five times.

M-TYPE

WEIGHT

1. Touch **WEIGHT** pad.



When you touch WEIGHT pad, "1" is displayed.
After the 1.5 seconds, the display changed into cooking time of quantity and the oven starts cooking.

* **BAKED POTATO** ***(160~180g/ea)**

- 1 NO (ea.): Touch WEIGHT once.
- 2 NO (ea.): Touch WEIGHT twice within 1.5 seconds.
- 3 NO (ea.): Touch WEIGHT three times within 1.5 seconds.

* **FRESH VEGETABLE** *

- 200g: Touch WEIGHT once.
- 300g: Touch WEIGHT twice within 1.5 seconds.

* **SOUP** *

- 250g: Touch WEIGHT once.
- 350g: Touch WEIGHT twice within 1.5 seconds.

* **FISH FILLETS***

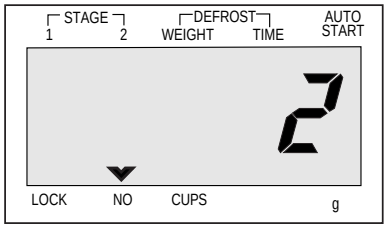
- 300g: Touch WEIGHT once.
- 500g: Touch WEIGHT twice within 1.5 seconds.

* **MEAT LOAF** *

- 500g: Touch WEIGHT once.
- 700g: Touch WEIGHT twice within 1.5 seconds.

FEEDING BOTTLE

This key is for feeding bottle disinfection effect.
At first, detach the nipple from the bottle and pour the 30cc water into each bottle, arrange the bottle symmetrically on the glass tray and operate.

DO THIS...	THIS HAPPENS...
FEEDING BOTTLE 1. Touch **FEEDING BOTTLE** pad.	 When you touch FEEDING BOTTLE pad, “2” is displayed. After the 1.5 seconds, the display changed into sterilizing time of quantity and the oven starts sterilizing.

*** FEEDING BOTTLE ***

- 2 NO (ea.): Touch FEEDING BOTTLE once.
- 4 NO (ea.): Touch FEEDING BOTTLE twice within 1.5 seconds.
- 6 NO (ea.): Touch FEEDING BOTTLE three times within 1.5 seconds.

MORE, LESS

MORE pad: adds for 10 seconds to 20 seconds.
LESS pad: remove for 10 seconds to 20 seconds.
These pad only work one touch cooking and feeding bottle mode. And always input previously.

CHILD SATETY LOCK

The safety lock prevents unwanted oven operation such as by small children.
To set, press STOP/CLEAR for 3 seconds, LOCK indicator lights.
To cancel, press STOP/CLEAR for 3 seconds, LOCK indicator goes off.

TO STOP THE OVEN WHILE THE OVEN IS OPERATING

1. Press STOP/CLEAR pad.
   - You can restart the oven by touching START pad.
   - Touch STOP/CLEAR once more to erase all instructions.
   - You must enter in new instructions.
2. Open the door.
   - You can restart the oven by closing the door and touching START.

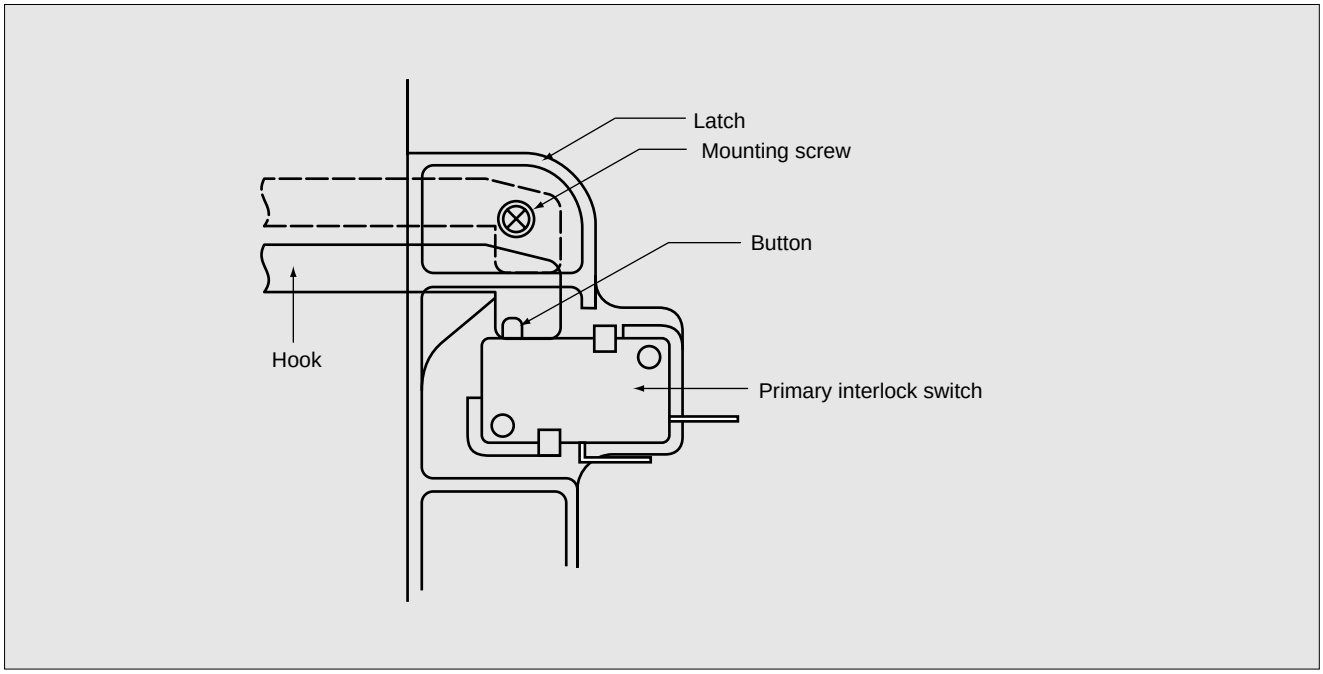
NOTE: Oven stops operating when door is opened.

INTERLOCK MECHANISM FUNCTIONS AND ADJUSTMENTS

The door lock mechamism is a device has been specially designed to completely eliminate microwave radiation when the door is opened during operation, and thus to perfectly prevent the danger resulting from the leakage of microwave.

1. PRIMARY INTERLOCK SWITCH

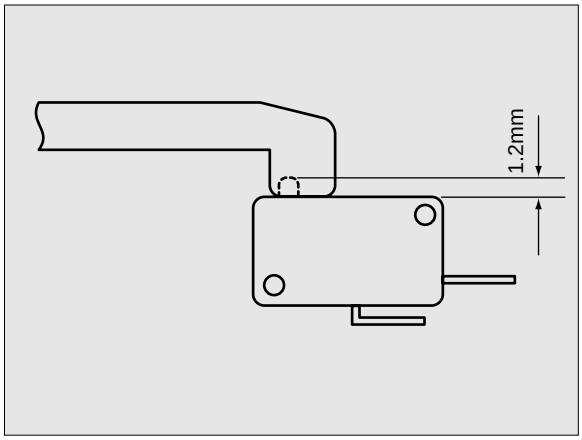
When the door is closed, the hook locks the oven door. If the door is not closed properly the oven will not operate. When the door is closed, the hook pushes the button of the micro switch. Then the button of the primary interlock switch bring it under on condition.



Adjustment 1.

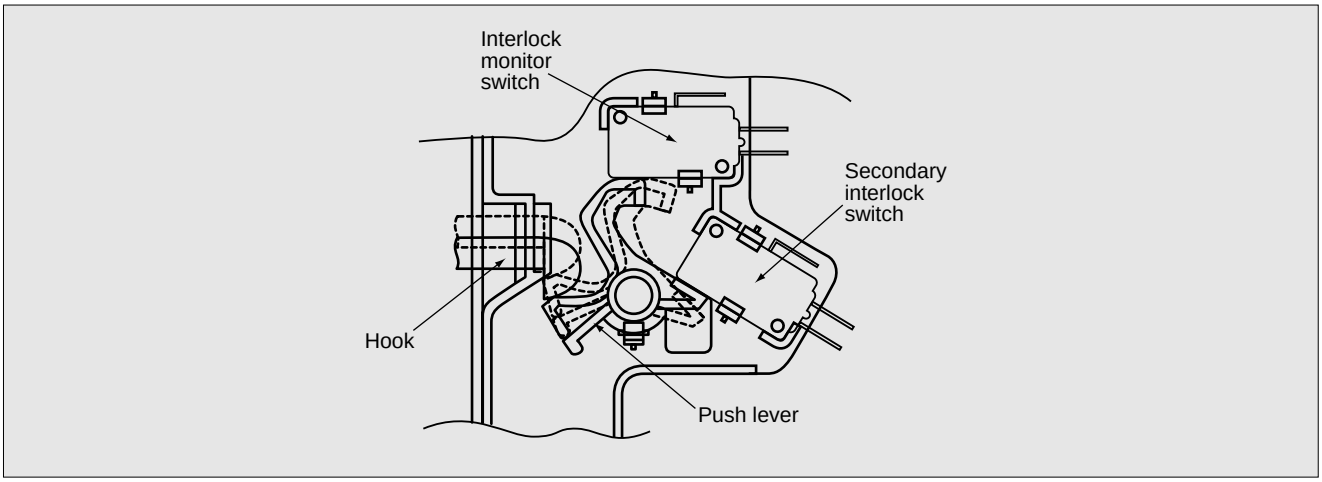
When the door is closed, the switch button is pushed by the hook.

The movement of the switch button should exceed 1.2mm measured at the top of the button.



2. SECONDARY INTERLOCK SWITCH AND INTERLOCK MONITOR SWITCH

When the door is closed, the hook pushes the push lever down ward, and push lever presses the button of the interlock monitor swich to bring it under “off”, condition and presses the button of the secondary interlock switch to bring it under “on”, condition.



Adjustment 2.

Interock monitor switch

When the door is closed, the interlock monitor switch should be opend before other switches close.
When the door is closed, the interlock monitor switch should be closed after other switches open.

Secondary interlock switch

The movent of the switch button should exceed 1.2mm measured at the top of the button.

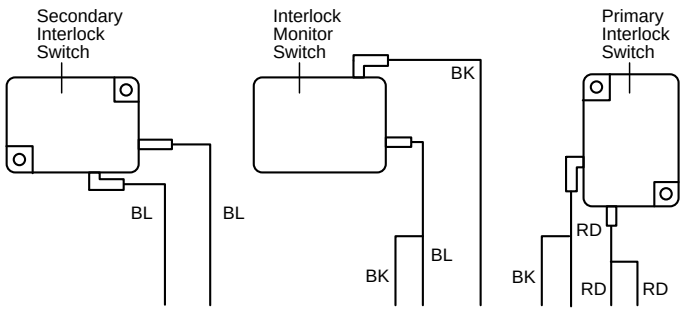
3. ADJUSTMENT STEPS

a) Loosen the two mounting screws.
b) Adjust interliock switch assembly position.
c) Confirm the gap (1.2mm) described above.
d) Make sure that push lever moves smoothly adjustments is completed.
e) Completly tighten the two mounting screws.

NOTE: Microwave emission test should be performed after adjusting interlock machanism. If the microwave emission exceed 4mW/cm^2, readjust interlock mechanism.

4. INTERLOCK SWITCH REPLACEMENT

Whenever safety interlock switches are replaced:
1) Refer to the following diagram.
2) Check the connection of monitor switch after replacement.
3) Perform the electrical continuity check of interlock switches and microwave emission test men tioned in this manual.



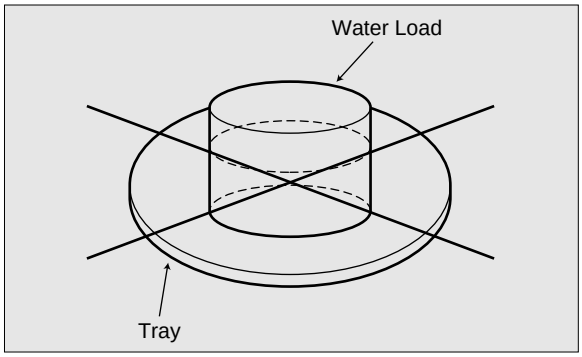
SYMBOL	COLOR
RD	RED
BL	BLUE
BK	BLACK
WH	WHITE
GY	GRAY

MEASUREMENT OF THE MICROWAVE OUTPUT POWER

Microwave output power can be checked by indirectly measuring the temperature rise of a certain amount of water exposed to the microwave as directed below.

PROCEDURE

1. Microwave power output measurement is made with the microwave oven supplied at rated Voltage and operated at its maximum microwave power setting with a load of 1,000 ± 5cc of potable water.
2. The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
3. The oven and the empty vessel are at ambient temperature prior to the start of the test.
   The initial temperature of the water is 10 ± 2˚C.
   It is measured immediately before the water is added to the vessel. After addition of the water to the vessel, the vessel, the load is immediately placed on the center of the shelf which is in the lowest normal position.
4. Microwave power is switched on.
5. Heating time should be exactly 70 seconds.
   Heating time is measured while the microwave generator is operatng at full power.
   The filament heat-up time for magnetrons is not included.
6. The initial and final water temperatures are selected so that the maximum difference betwen the ambient and final water temperatures is 5K.



7. The microwave power output P in watts is calculated from the following formula:

$$P=4187 \times \triangle T / t$$

- △ T is actual temperature rise.
- t is the heating time.

The power measured should be 600W ± 10.0˚C

CAUTION:

1. Water load should be measured exactly to 1 liters.
2. Input power voltage should be exactly 220 volts as specified.
3. Ambient temperature should be 20 ± 2˚C (68 ± 3.6F)

MICROWAVE RADIATION TEST

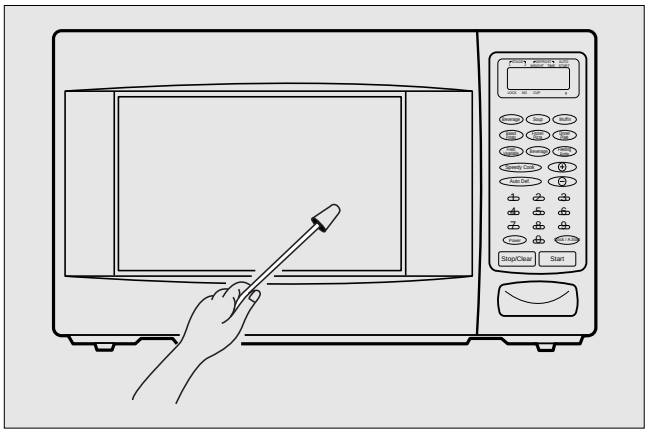
WARNING

Make sure to check the microwave leakage before and after repair or adjustment.

- Always, start measuring of an unknown field to assure. Safety for operating personnel from microwave energy.
- Do not place your hands into any suspected microwave radiation field unless the safe density level is known.
- Care should be taken not to place the eyes in direct line with the source of microwave energy.
- Slowly approach the unit under test until the radiometer reads an appreaciable microwave leakage from the unit under the test.

PROCEDURE

A) Prepare Microwave Energy Survey Meter, 600cc glass breaker, glass thermometer 100˚C or 212˚F.
B) Pour 275cc ± 15cc of tap water initially at 20 ± 5˚C (68 ± 9˚F) in the 600cc beaker with an inside diameter of approx. 8.5 cm (3.5 in).
C) Place it at the center of the tray and set it in a cavity.
D) Close the door and operate the oven.
E) Measure the leakage by using microwave energy survery meter with dual ranges, set to 2,450 MHz.
– Measured radiation leakage must not exceed the values prescribed below.
• Leakage for a fully assembled oven with door normally closed must be less than 4mW/cm^2.
– When measuring the leakage, always use the 5cm space cone with probe. Hold the probe perpendicular to the cabinet, door. place the space cone of the probe on the door, cabinet, door seam,along the seam, the door viewing window, the exhaust air vents, the suction air vents.
– Measuring shonld be in a counter-clockwise direction at a rate of 1 inch/sec. If the leakage of the cabinet door seam is unknow, move the probe more slowly.



– When measuring near a corner of the door, keep the probe perpendicular to the areas making sure the probe end at the base of the cone does not get closet than 2 inches from any metal.
If it does, erroneous reading may result.

WIRING DIAGRAM

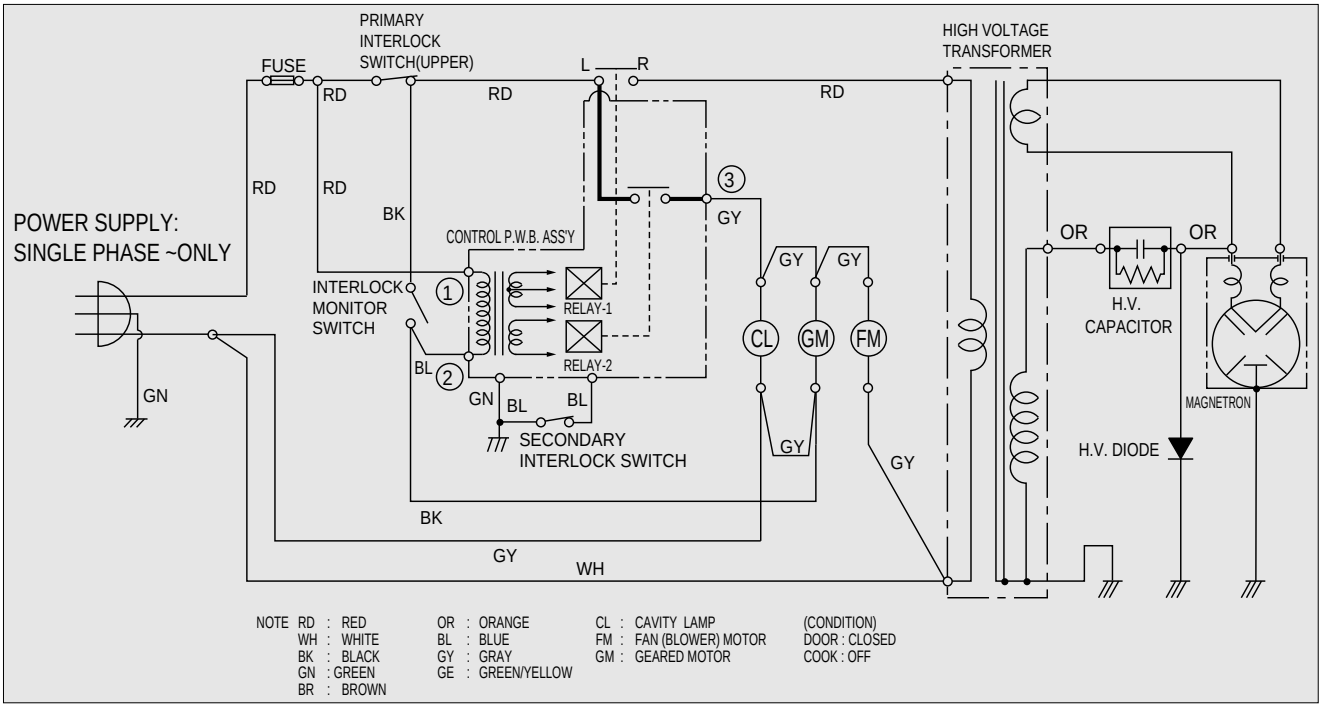


Fig. 1

CIRCUIT DESCRIPTION

Refer to the “WIRING DIAGRAM” (Fig. 1) on page 25.

MICROWAVE COOKING

TIME COOKING

1. When the food is placed inside the oven and door is closed.

1) The low voltage transformer supplies the necessary voltage to the touch control circuit when the power cord is plugged in.

2) The contacts of the interlock monitor switch open.
This switch creates short circuit to blow 15A fuse and stop magnetron oscillation when door is opened during operation under abnormal condition (i.e. the contacts of primary interlock switch do not open the circuit).

3) The contacts of primary interlock switch close the primary circuit.

2. When cooking cycle, power and time are set by touching the function pads and the desired numerical pads.

1) The function indicating bars are located on the digitron light to indicate that function have been set.

2) The time you set appears in the display window.

3) The touch control circuit memorizes the cooking program you set.

3. When the start pad is touched.

* The RELAY “1”, “2” are controlled by the touch control circuit.

1) 220VAC is applied to the high voltage transformer through the contacts of RELAY “1”.

2) Fan motor starts rotating and cools the magnetron by blowing the air coming form the intake on the rear plate hold.

3) The oven lamp light the inside of the oven.

4) Indicator light turns on to indicate function operation. Cooking time starts count down.

5) 3.3 Volts AC is generated from the filament winding of the high voltage transformer. This filament voltage is applied to the magnetron to heat the magnetron filament through two noise prventing choke coils.

6) A high voltage of 2000 Volts AC is generated in the secondary of high voltage transformer and this secondary voltage is increased by the action of the diode and the charging of the high voltage capacitor. This resultant DC voltage is then applied to the anode of the magnetron. As shown in Fig. 2 the first half cycle of the high voltage produced in the high voltage transformer secondary charges the high voltage capacitor. Current flow is in the direction of the dotted-line during the second half cycle, the voltage produced by the transformer secondary, and the charge of the high voltage capacitor are combined and applied to the magnetron as shown by the solid line so that oscillations begin. The disturbance wave generated by the mangetron is prevented by the choke coils of 3.2μH, filter capacitor of 16pF and the magnetron’s shielded case so that TV and radio programs are not impaired by noise.

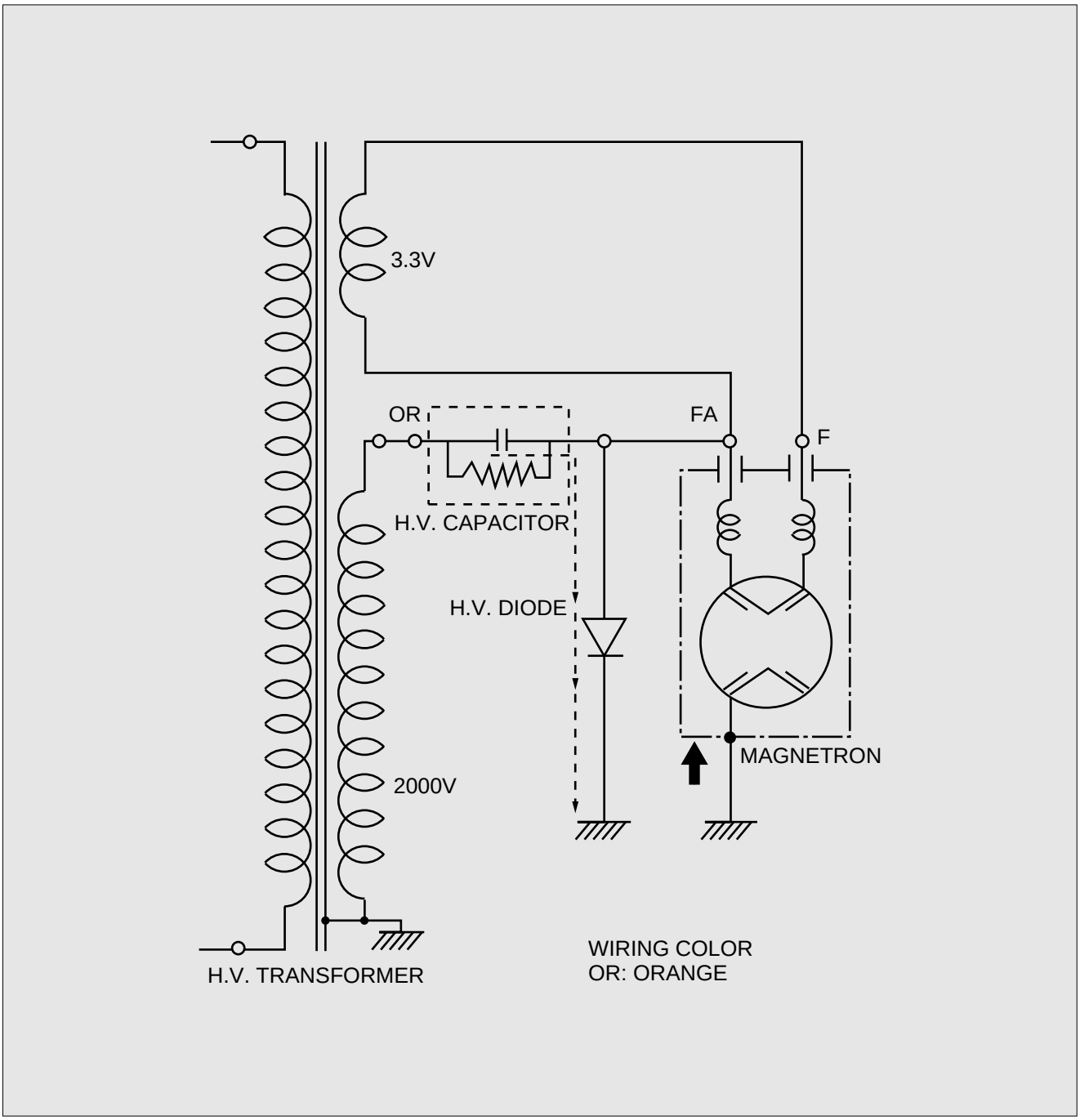


Fig. 2

The touch control circuit controls the ON-OFF time of RELAY “1” in order to vary the output power of the microwave oven from “power level 1“ to “HI (100%) power”.
One complete ON and OFF cycle of the RELAY “1” is 29 seconds. The relation between indications on the control panel and the output of the microwave oven is as shown in Fig. 3

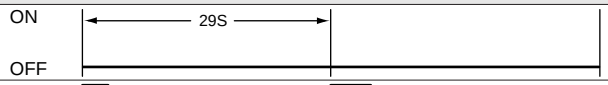
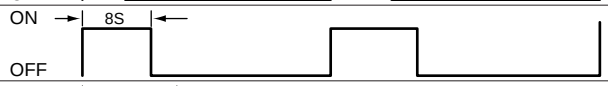
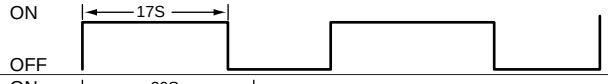
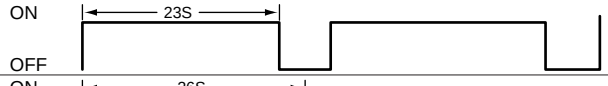
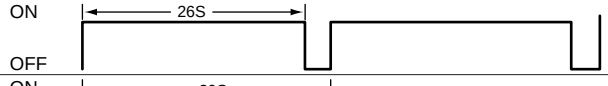
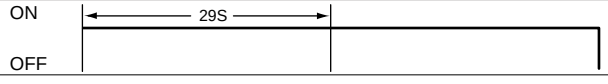
POWER LEVEL	OUTPUT POWER AGAINST FULL POWER	RELAY “1” TURN ON, OFF TIME
0	0/29 (0%)	
1	3/29 (10%)	
2	5/29 (17%)	
3	8/29 (28%)	
4	11/29 (38%)	
5	14/29 (48%)	
6	17/29 (59%)	
7	20/29 (69%)	
8	23/29 (79%)	
9	26/29 (90%)	
HI	29/29 (100%)	

Fig. 3

AUTO DEFROST CYCLE

When auto defrost is selected and the desired defrosting time is chosen, the automatic cycle divides the defrosting time into 5 periods of alternating defrost and stand times, by cycling on and off.

4. When the door is opened during cooking.

1) The primary interlock switch is opened to cut off primary voltage to the high voltage transformer to stop microwave oscillation.
2) The secondary interlock switch is opened to give the door open information to touch control circuit. The contacts of the RELAY “1” and “2” open, the display stops counting down.
3) Fan motor and turn table stop rotating.
4) The oven lamp turns off.
5) As soon as the door is opened, the interlock monitor switch contacts close and creats the short circuit.
6) If the contacts of primary interlock switch malfunction the 15A fuse blows open due to the large current surge caused by the short circuit activation, and this in turn stops magnetron oscillation (Fig. 1).

5. When the STOP/CLEAR pad is touched during cooking.

1) The touch control circuit cuts the voltage supplied to the RELAY “1” coil and causes the magnetron to stop oscillating.
2) RELAY “2” turns off.
3) The display will show the time of day. If you don’t set the clock, the display will show a colon.
4) The oven lamp turns off.
5) Fan motor and turn table motor stop rotating.

SAFETY PRECAUTIONS FOR DISASSEMBLY AND REPAIR

– Cautions to be observed when trouble shooting.

Unlike many other appliances, the microwave oven is a high-voltage, high-current equipment. It is com pletely safety during normal operation. However, carelessness in servicing the oven can result in an electeric shock or possible danger from a short circuit.
You are asked to observe the following precautions carefully.

(1) Always remove the power plug from the outlet before servicing.

(2) Use an insulated screwdriver which is attached to iron plate, and wear rubber gloves when servicing the high voltage side.

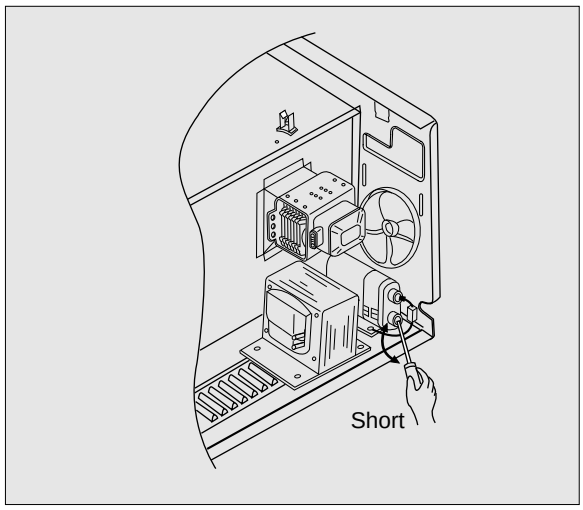
(3) Warning about the electric charge in the high voltage capacitor. When inspecting and repairing the high voltage side, always short the capacitor terminals and make sure of discharge.

1. Check the grounding.

Do not operate on a 2-wire extension cord.
The microwave oven is designed to be used when grounded.
It is imperative, therefore, to makes sure it is grounded properly vefore before begining repair work.

2. Warning about the electric charge in the high voltage capacitor.

For about 30 seconds after the operation stops, electric charge remians in the high voltage capacitor. When replacing or checking parts, short between oven chassis and the negative high terminal of the high voltage capacitor, by using a properly insulated screw driber to discharge.



(4) When the 12 Amp. fuse is blown out to operation of the monitor switch; replace primary, and monitor switch. Refer to 22 page for the necessary adjustment.

(5) After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.

(6) Do not opertate without cabinet.

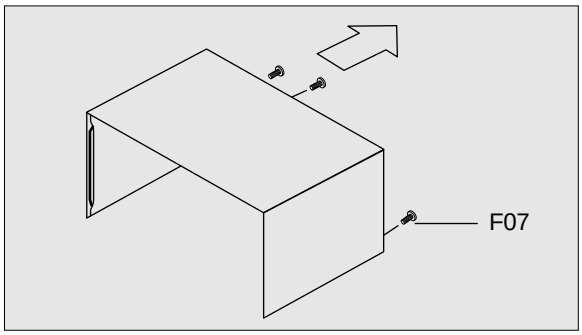
CAUTION: Service personnel should remove their watches whenever working close to or repairing the magnetron.

WARNING: When servicing the appliance, need a care of touching or replacing high potential parts because of electrical shock of exposing microwave. These parts are as follows–H.V. Thansformer, Magnetron, H.V. Capacitor, H.V. Diode.

DISASSEMBLY AND ASSEMBLY

1. To remove cabinet.

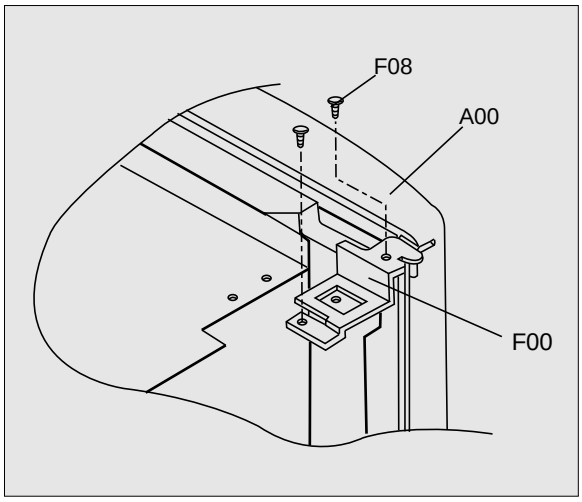
Remove three screws (F07) on cabinet back.



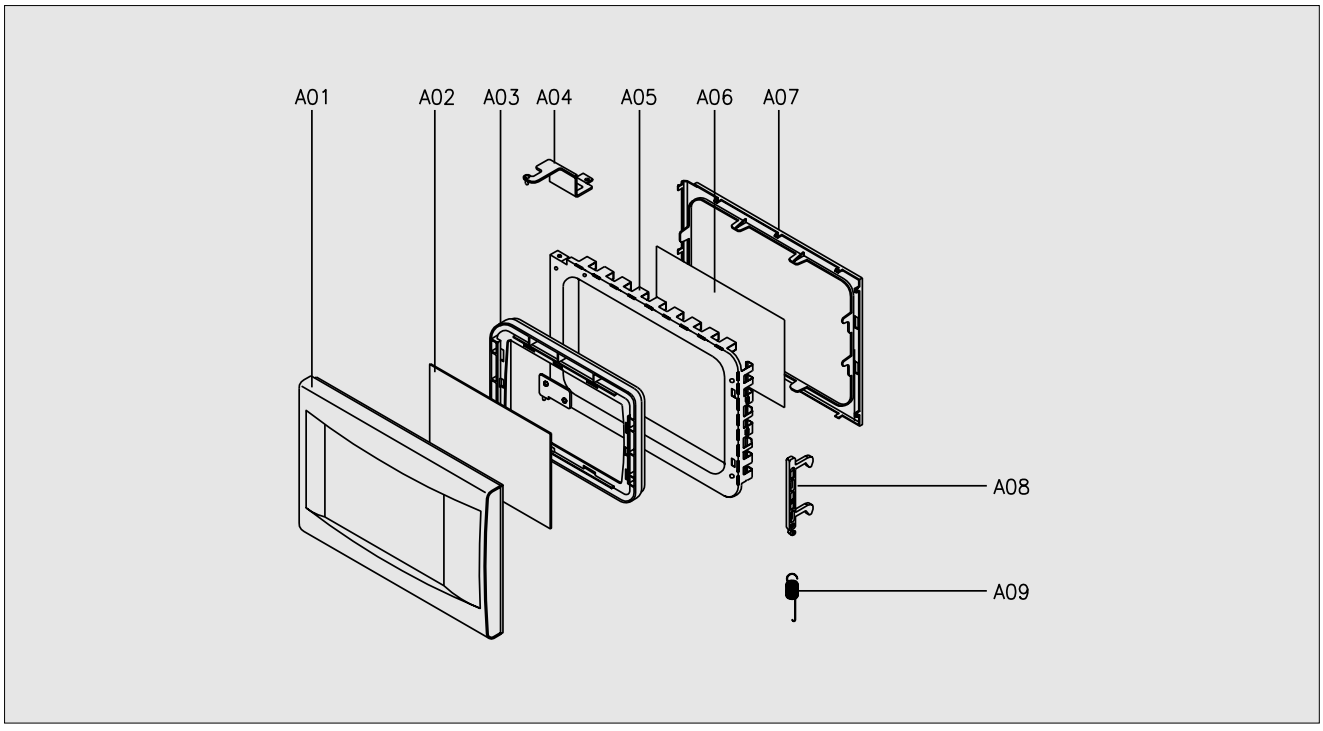
2. To remove door assembly.

1) Remove two screws (F08) which secure the top hinge seoppr (F00).
2) Remove the door assembly (A00) from the top plate of cavity.
3) Reverse the above for reassembly.

NOTE: After replacing the door preform a check of correct alignment with the hinge and cavity front face.



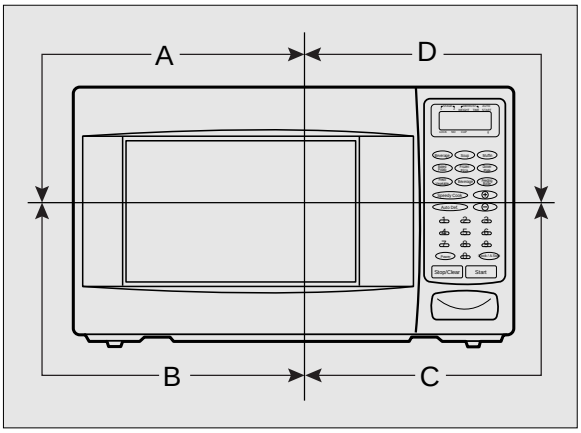
3. To remove door parts.



(1) Remove the gasket door (A07) from door weld ass'y (A05).
(2) Remove the barrier screen inner (A06) from door weld ass'y (A05).
(3) Remove the hook spring (A09) and the hook (A08).
(4) Remove the hinge stopper to ass'y (A04).
(5) Remove the door frame (A01) from door weld ass'y (A05).
(6) Remove the barrier screen outer (A02) and the supporter barrier screen outer (A03).
(7) Reverse the above steps for reassenbly.

4. Method to reduce the gap between the door seal and the oven front surface.

(1) To reduce gap located on part 'A'
1) Loosen two screws on the top hinge stopper, and then push the door to contact the door seal to oven front surface.
3) Tighten two screws.



(2) To reduce gap located on part 'B'.
1) Loosen three screws in under hinge stopper, and then the door to contact the door seal to oven front surface.
2) Tighten three screws.

(3) To reduce gap located on part 'C'. (See Fig. A)
1) Loosen a screw on the interlock switch assembly located at the bottom of the oven body.
2) Draw the interlock switch assembly inward as possible with hook on the door bottom.
3) Tighten a screw.

(4) To reduce gap located on part 'D'. (See Fig. B)
1) Loosen a screw on the interlock switch assembly located at the top of the oven body.
2) Follow step (3) 2) and 3).

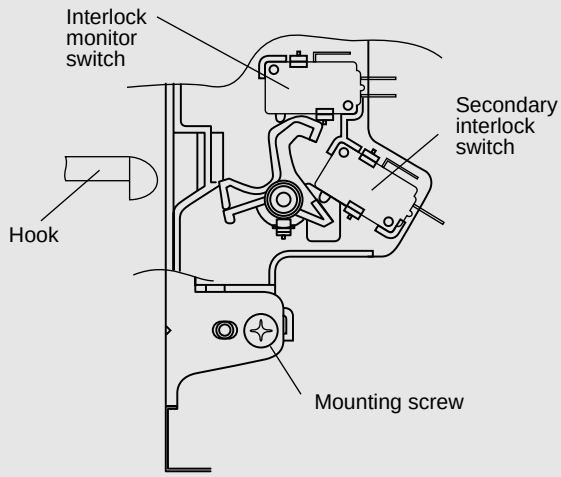


Fig. A

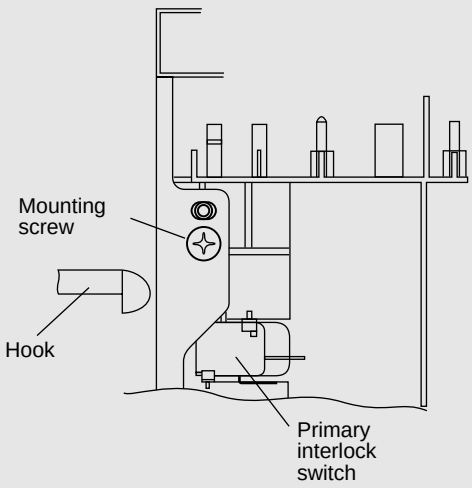
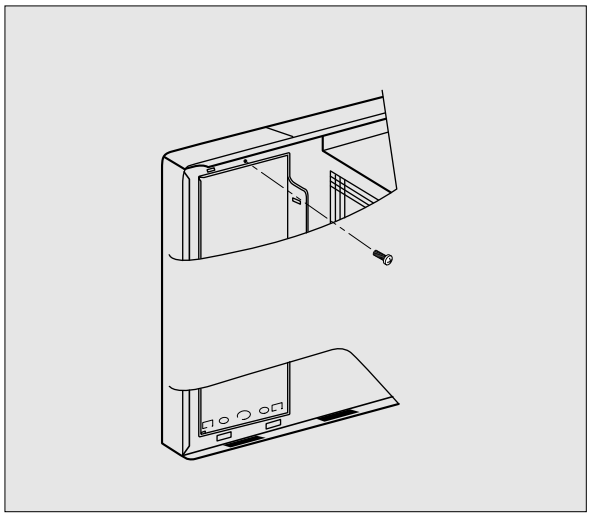


Fig. B

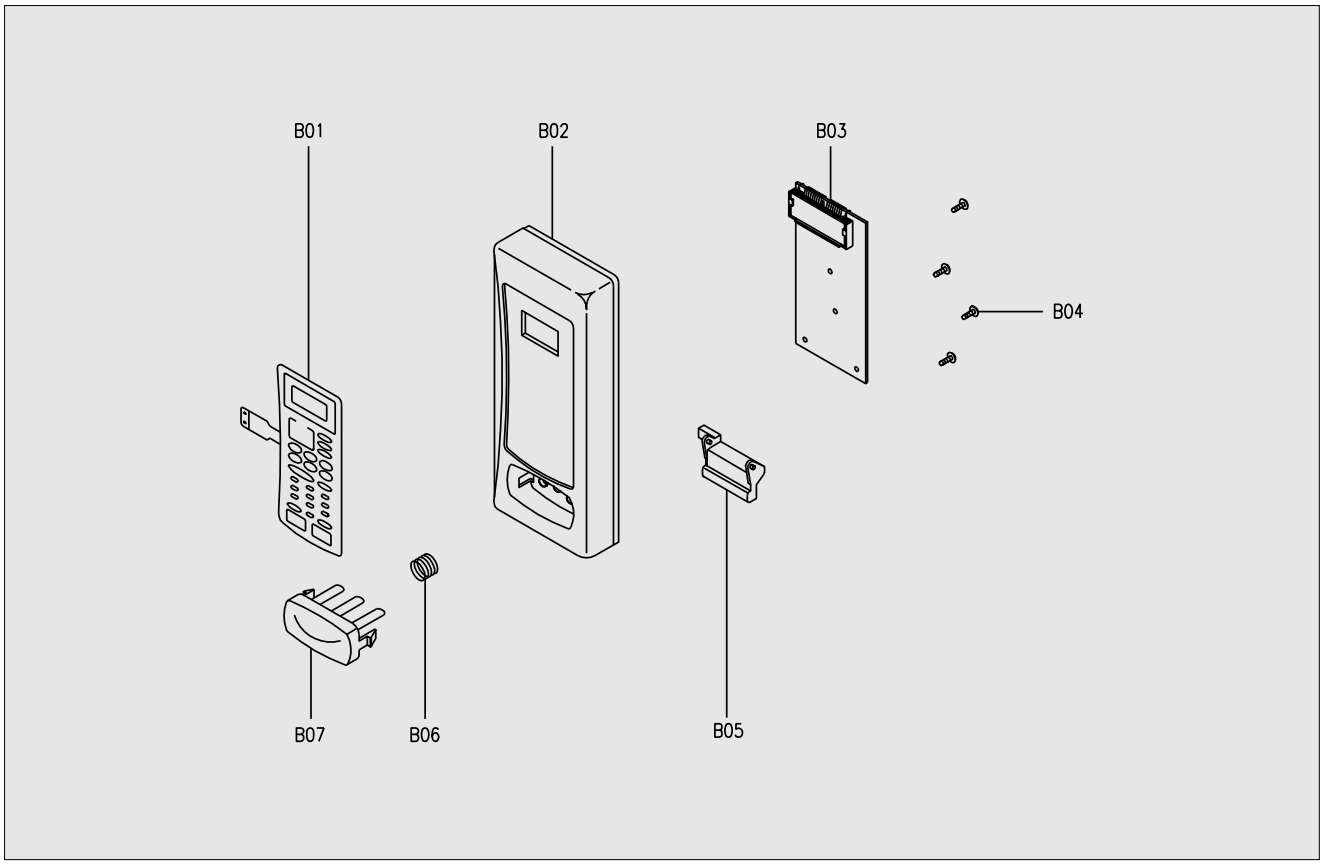
NOTE: A small gap may be acceptable if the microwave leakage does not exceed 4mW/cm^2.

5. To remove control panel parts.

(1) Remove the screw which secur the control panel, push up two snap fits and draw forward the control panel assenbly.



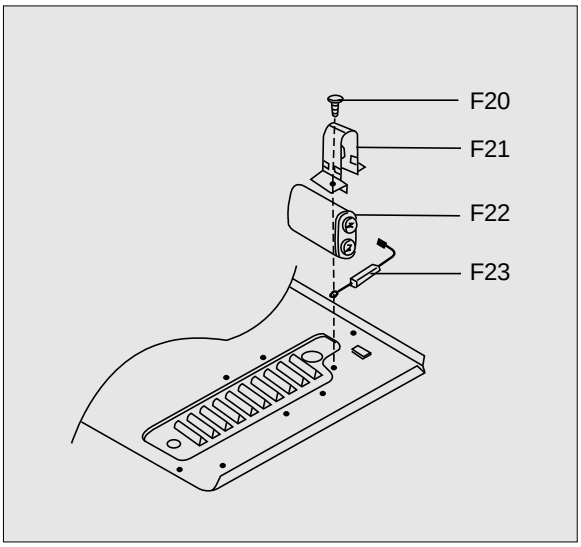
NOTE: Do not attempt to remove switch membrane except for replacement.



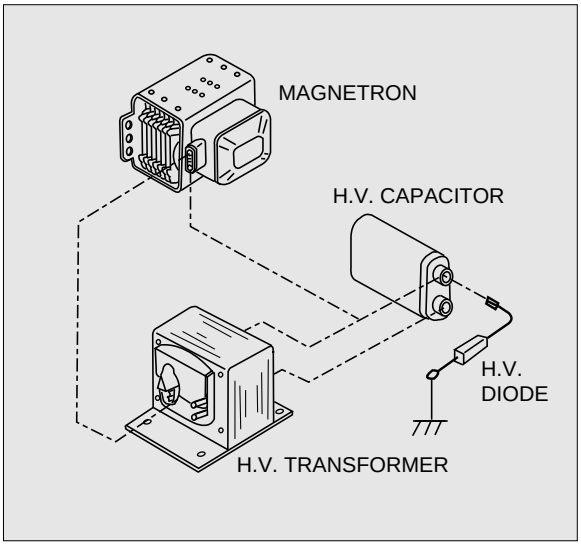
(2) Remove the door open lever (B05) from the control panel (B02).
(3) Remove four screws (B04) which secure the P.C.B. ass'y (B03).
(4) Remove the P.C.B.ass'y (B03) from the control panel (B02).
(5) Remove the door open button (B07) and button spring (B06) from the control panel (B02).
(6) Remove the above steps for reassembly.

6. To remove high voltage capacitor.

(1) Remove the screw (F0) which secure the grounding ring terminal of diode (F3) and capacitor holder (F21).
(2) Remove the capacitor holder (F21) with capacitor (F22).
(3) Reverse the above steps for reassembly.

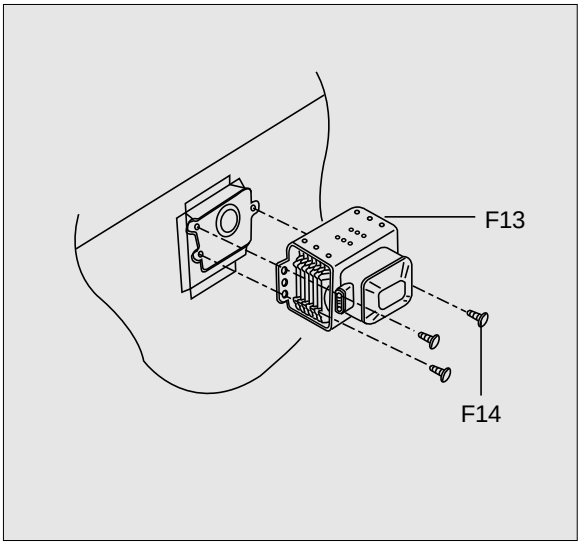


High voltage circuit wiring

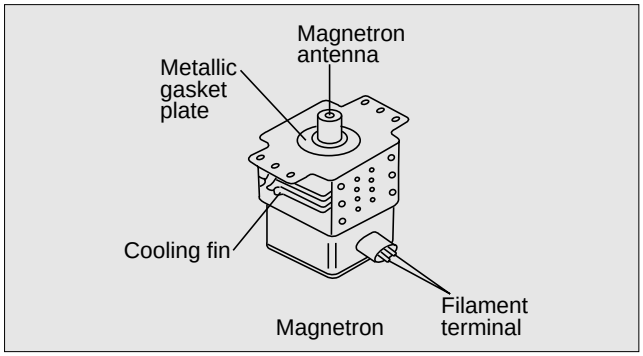


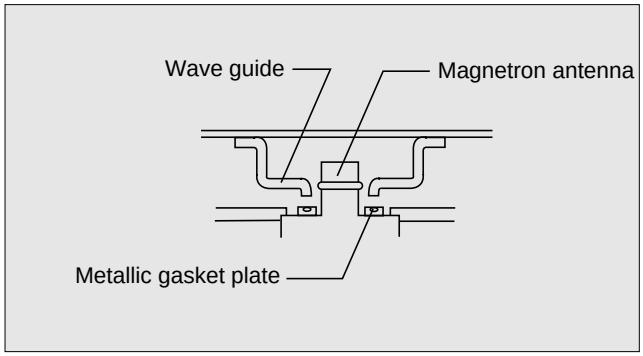
7. To remove magnetron.

(1) Remove three screws (F14) which secure magnetron (F13).
(2) Pull out the magntron (F13) from the wave guide.
(3) Reverse the above steps for reassembly.



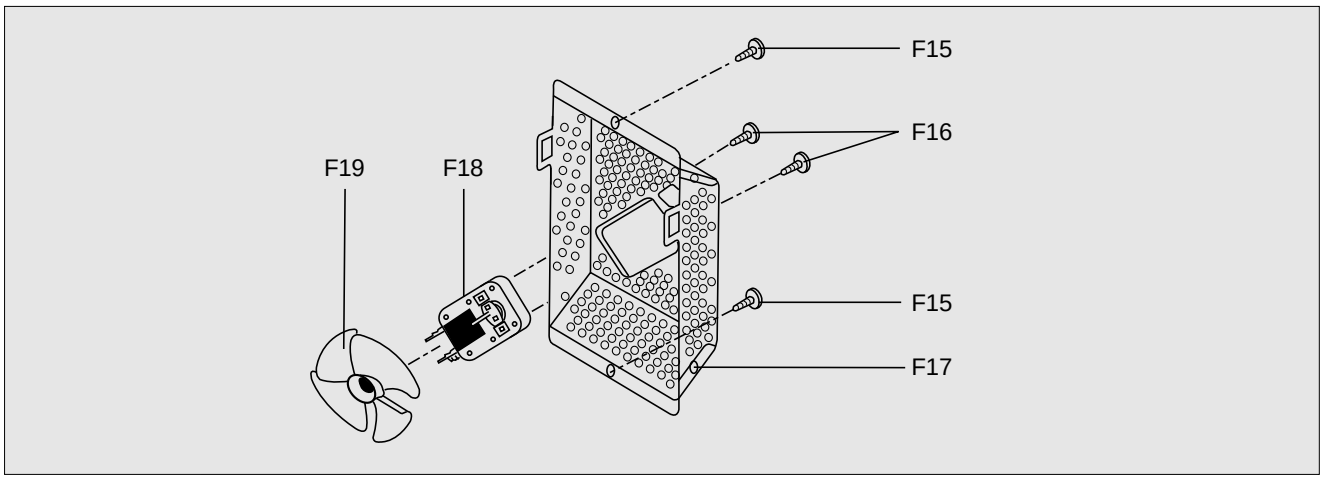
CAUTION: Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave.
Whenever repair work is carried out on magnetron, check the microwave leakage.
It shall not exceed 4mW/cm^2 for a fully assembled oven with door normally closed.





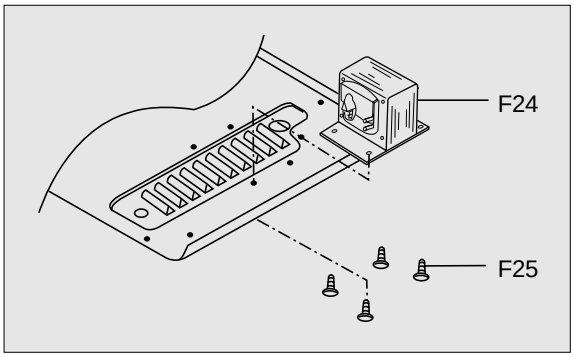
8. To remove fan motor assembly.

(1) Remove two screws (F15) which secure the back cover (F17) from the cavity outer.
(2) Remove two screws (F16) which secure the fan motor (F18) from the back cover.
(3) Pull out the fan (F19) from the motor (F18).
(4) Remove the above steps for reassembly.



9. To remove thransformer.

(1) Remove the four screws (F25) holding the H.V. transformer (F24).
(2) Remove the transformer (F24).
(3) Reverse the above steps for reassembly.



TROUBLE SHOOTING GUIDE

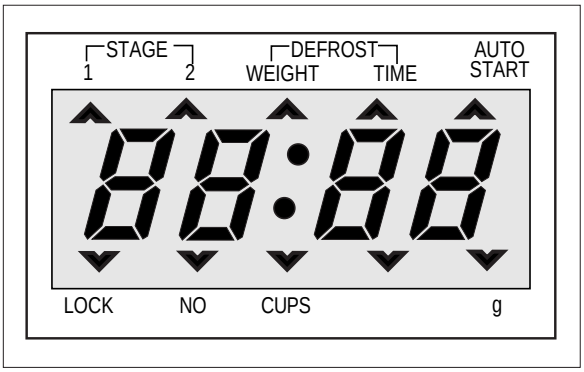
Following the procedures below to check if the oven is defective or not.

1. Check grounding before checking trouble.
2. Be careful of the high voltage circuit.
3. Discharge the high voltage capacitor. (see page 29)
4. When checking the continuity of switches or of the high voltage transformer, disconnect one lead wire from these parts and then check cintinuity with the AC plug removed. To do otherwise may result in false reading or damage to your meter.
5. Do not touch any part of the circuity on the touch control circuit since static electric discharge may damage this control panel.
   Always touch yourself to ground while working on this panel to discharge any static charge built up in your body.

First of all operate the microwave oven following the correct operation described in pages 6~21 by time cooking, in order to find the exact cause if any trouble.

(TROUBLE 1) The following visual conditions indicate a probable defective touch control circuit or membrane switch assembly.

1. Incomplete segments.
   (A) Segments missing.
   (B) Partical segments missing.
   (C) Digit flickering other thay normal fluorescent slight flickering.
   (D) ":0" does not display when power is on.
2. A distinct change in the brightness of one or more numbers in the display.
3. One or more digits in the display are not on when they should be.
4. Display indicates a number different from one touched.
5. For example, touch 5 and 3 appears in the display.
6. Specific numbers (for example 5 and 3)will not display when the panel is touched.
7. Display does not count down or up with time cooking or clock operation.
8. Oven is programmable and cooks normally but no display shows.
9. Display obviously jumps in time while counting down
10. Display counts down noticeably too fast while cooking.
11. Display can not shift from the first stage coking to the third stage cooking while 3 phase cooking (including defrost).
12. Display does not show the time of day when dear pad is touched (in clock mode).
13. Oven lamp and fan motor and turn table motor do not stop although cooking is finished.
    Check if the RELAY "2" contacts close if they are close, replace touch control circuit.



(TROUBLE 2) Digital readout display does not show programming, even if the membrane keyboard is programmed by touching proper pads.

Condition	Check	Result	Cause	Remedy
Display does not show programming at all, even if keyboard is touched	Check each pad for continuity of the membrane keyboard for the following keyboard check procedure	Normal	Malfunction of touch control circuitry of control box sub-assembly	Replace control box sub-assembly
		Abnormal	Malfunction of the membrane keyboard	Replace the membrane keyboard

NOTE: Before following the particular steps listed above in the trouble shooting guide for the membrane keyboard, failure, please check for the continuity of each wire-harness between the membrane keyboard and control box assembly.

MEMBRANE KEYBOARD CHECK PROCEDURE : M-TYPE

1. Check the pad termination order and nomenclature.

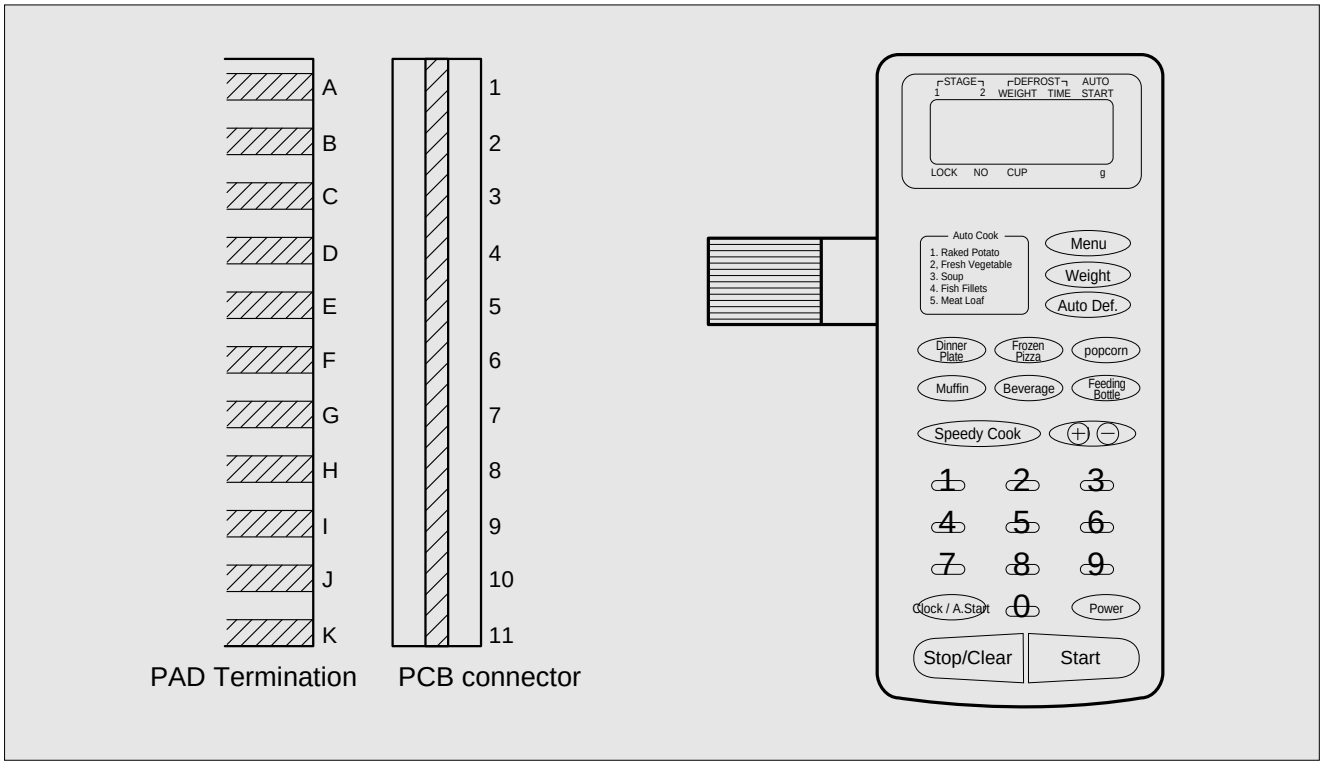


Fig. 4

2. Type of encoding and pad names.

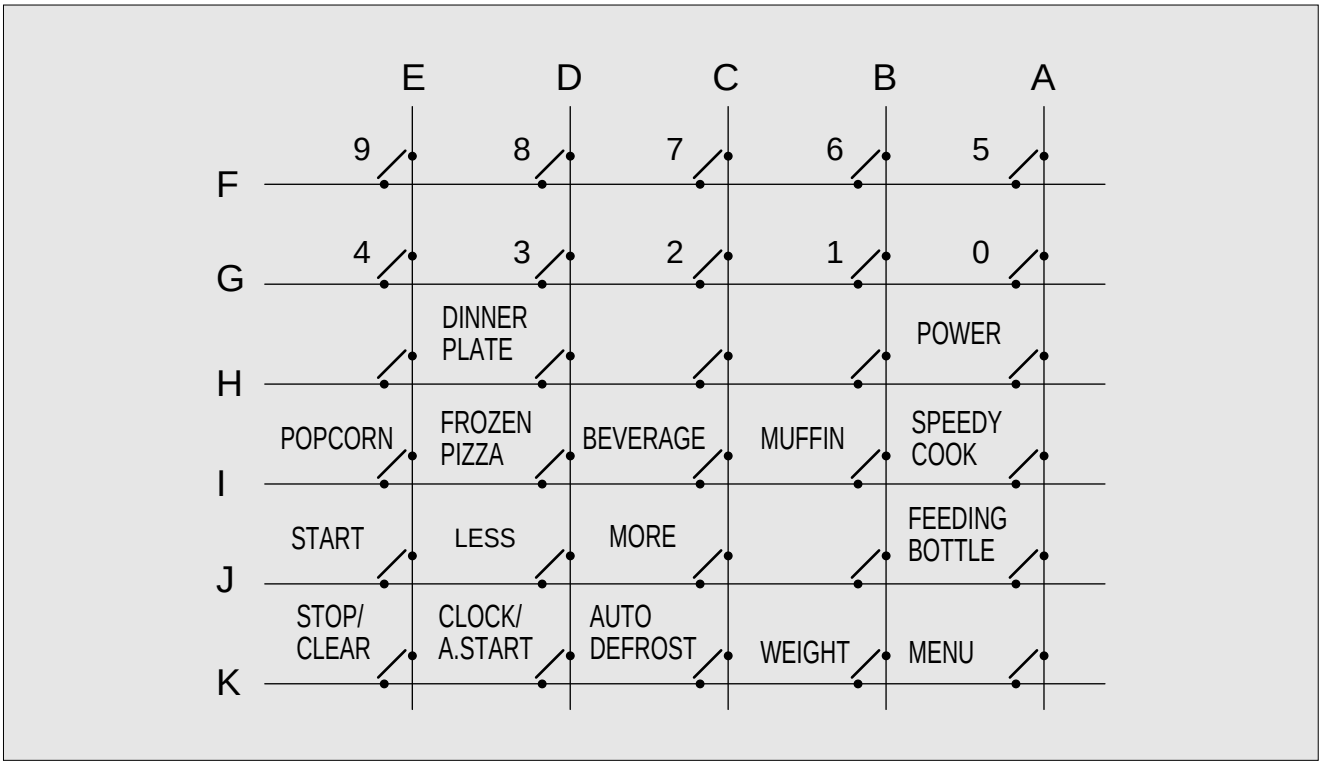


Fig. 5 Key Matrix

The membrane keyboard consists of 26 keys whose configurations are described above and provide 11 pad terminations to be connected to the touch control circuit as Fig. 4.

3. Key check procedure.

To determine if the membrane keyboard is defective or not, check the continuity of each pad (KEY) contacts with a multimeter.

1) 5	pad : Between A and F	14) MORE	pad : Between C and J
2) 0	pad : Between A and G	15) AUTO DEFROST	pad : Between C and K
3) POWER	pad : Between A and H	16) 8	pad : Between D and F
4) SPEEDY COOK	pad : Between A and I	17) 3	pad : Between D and G
5) FEEDING BOTTLE	pad : Between A and J	18) DINNER PLATE	pad : Between D and H
6) MENU	pad : Between A and K	19) FROZEN PIZZA	pad : Between D and I
7) 6	pad : Between B and F	20) LESS	pad : Between D and J
8) 1	pad : Between B and G	21) CLOCK/A.START	pad : Between D and K
9) MUFFIN	pad : Between B and I	22) 9	pad : Between E and F
10) WEIGHT	pad : Between B and K	23) 4	pad : Between E and G
11) 7	pad : Between C and F	24) POPCORN	pad : Between E and I
12) 2	pad : Between C and G	25) START	pad : Between E and J
13) BEVERAGE	pad : Between C and I	26) STOP/CLEAR	pad : Between B and K

MEMBRANE KEYBOARD CHECK PROCEDURE : Q-TYPE

1. Check the pad termination order and nomenclature.

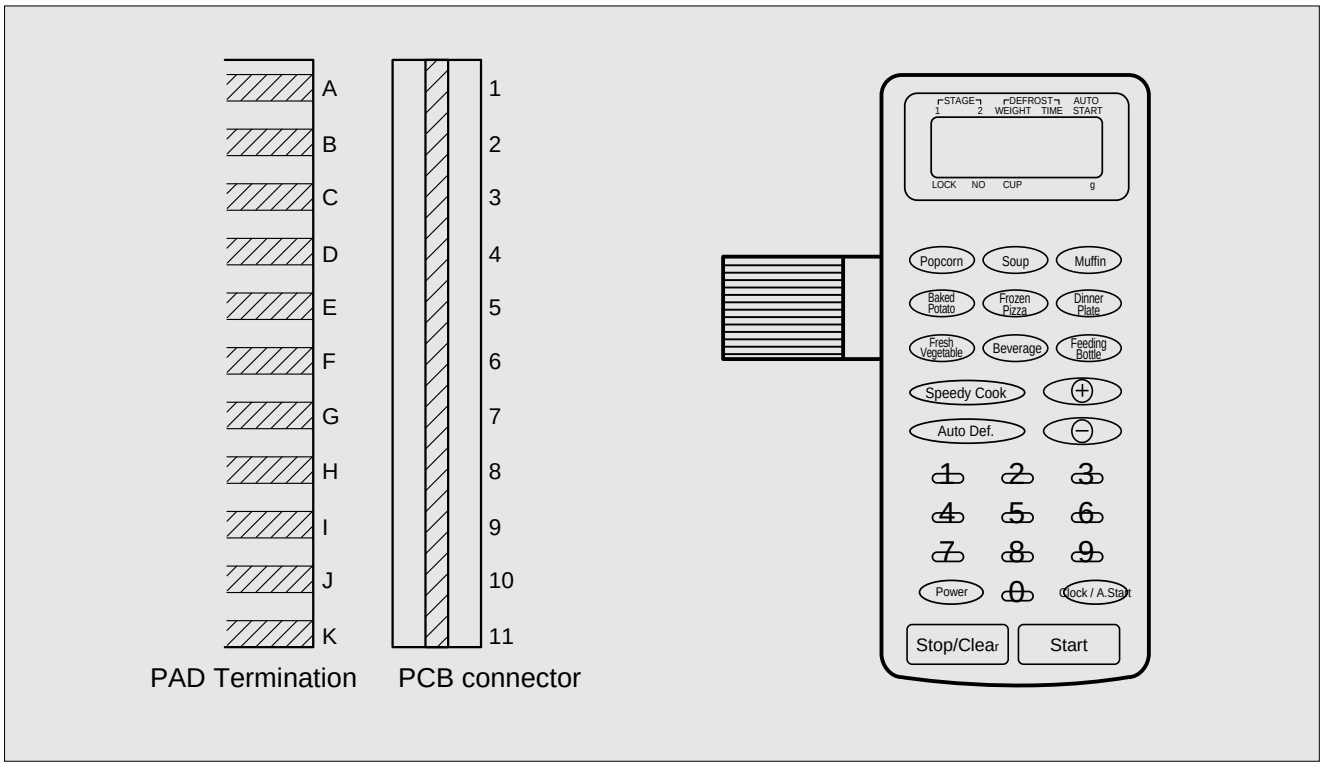


Fig. 4

2. Type of encoding and pad names.

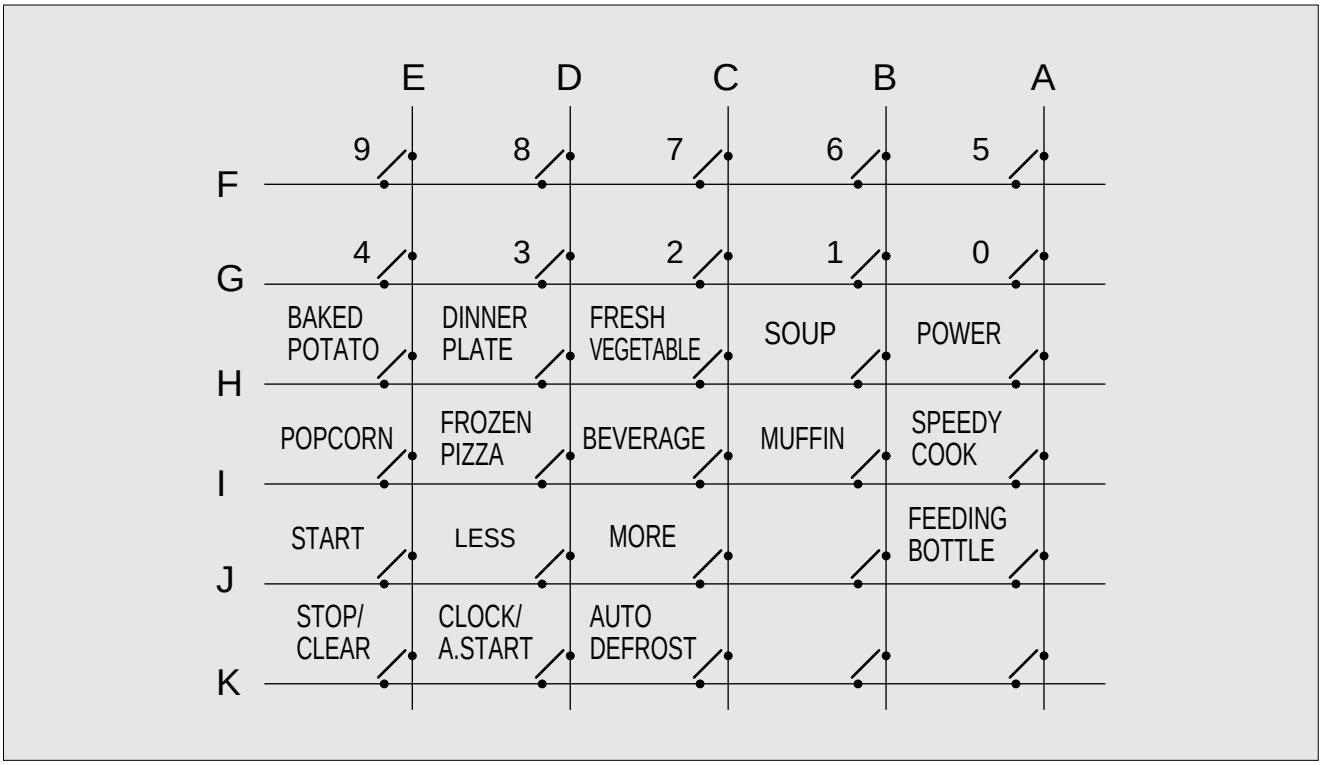


Fig. 5 Key Matrix

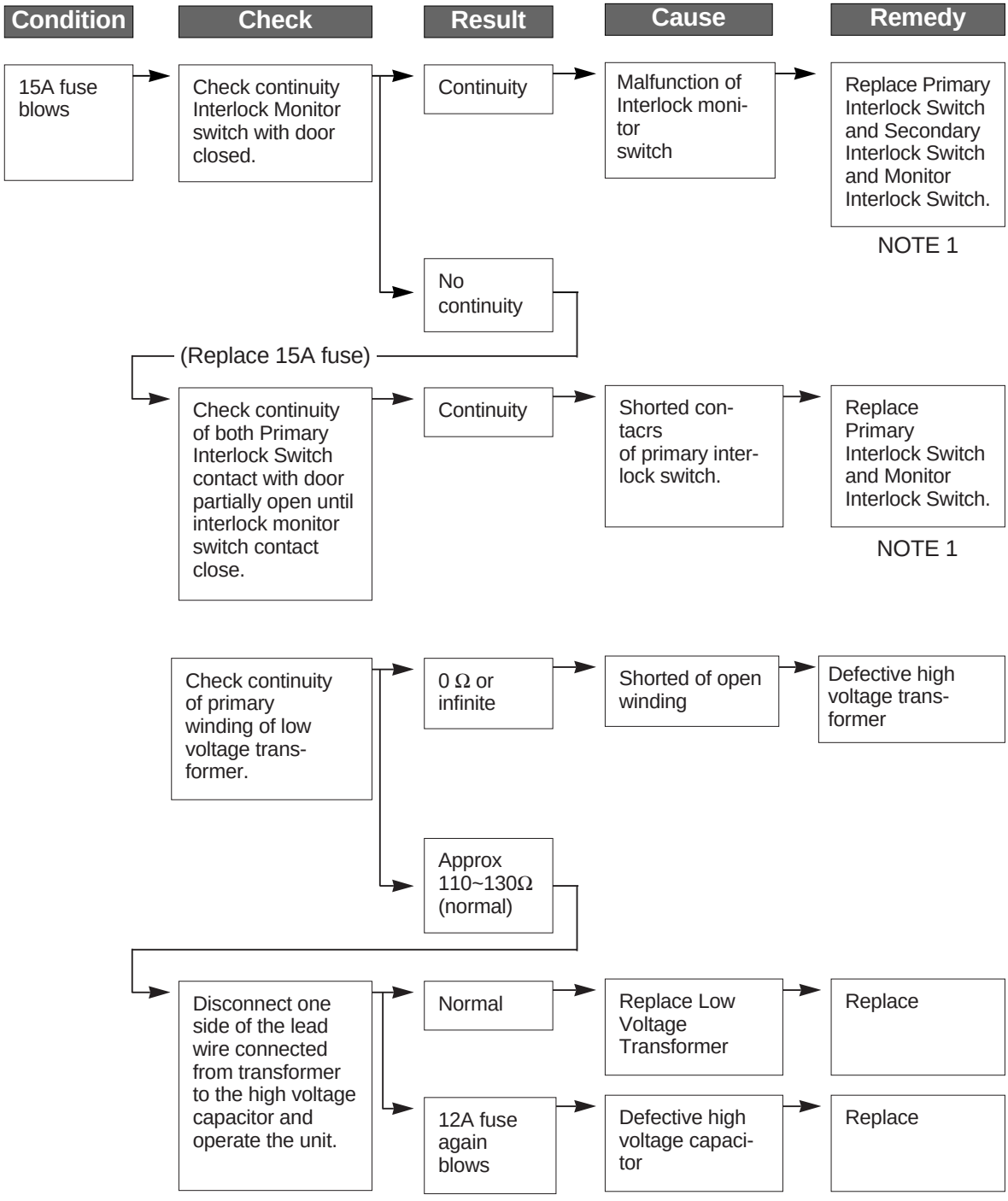
The membrane keyboard consists of 26 keys whose configurations are described above and provide 11 pad terminations to be connected to the touch control circuit as Fig. 4.

3. Key check procedure.

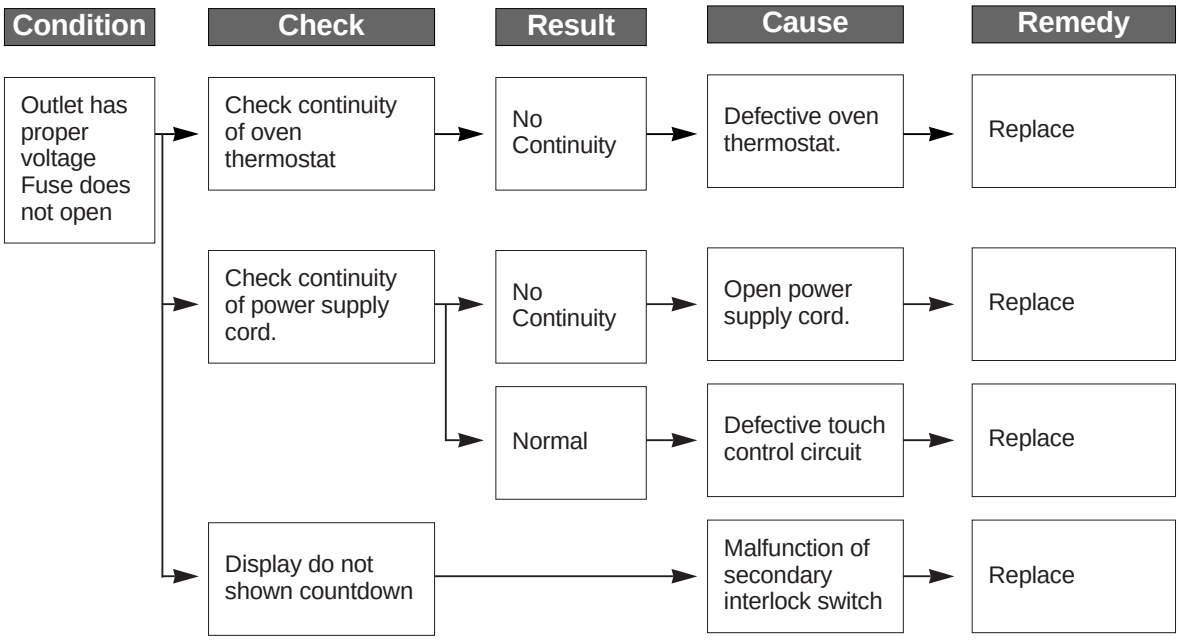
To determine if the membrane keyboard is defective or not, check the continuity of each pad (KEY) contacts with a multimeter.

1) 5	pad : Between A and F	14) MORE	pad : Between C and J
2) 0	pad : Between A and G	15) AUTO DEFROST	pad : Between C and K
3) POWER	pad : Between A and H	16) 8	pad : Between D and F
4) SPEEDY COOK	pad : Between A and I	17) 3	pad : Between D and G
5) FEEDING BOTTLE	pad : Between A and J	18) DINNER PLATE	pad : Between D and H
6) 6	pad : Between B and F	19) FROZEN PIZZA	pad : Between D and I
7) 1	pad : Between B and G	20) LESS	pad : Between D and J
8) SOUP	pad : Between B and H	21) CLOCK/A.START	pad : Between D and K
9) MUFFIN	pad : Between B and I	22) 9	pad : Between E and F
10) 7	pad : Between C and F	23) 4	pad : Between E and G
11) 2	pad : Between C and G	24) BAKED POTATO	pad : Between E and H
12) FRESH VEGETABLE	pad : Between C and H	25) POPCORN	pad : Between E and I
13) BEVERAGE	pad : Between C and I	26) START	pad : Between E and J
		27) STOP/CLEAR	pad : Between E and K

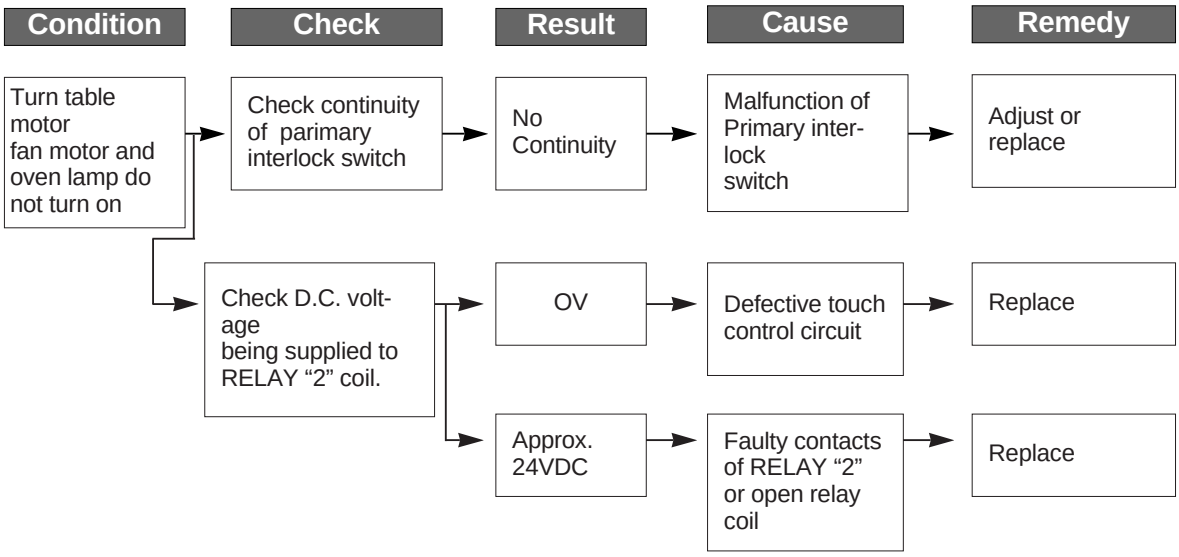
(TROUBLE3) The oven not operate at all; Display window does not display any figures and any inputs can not be accepted.

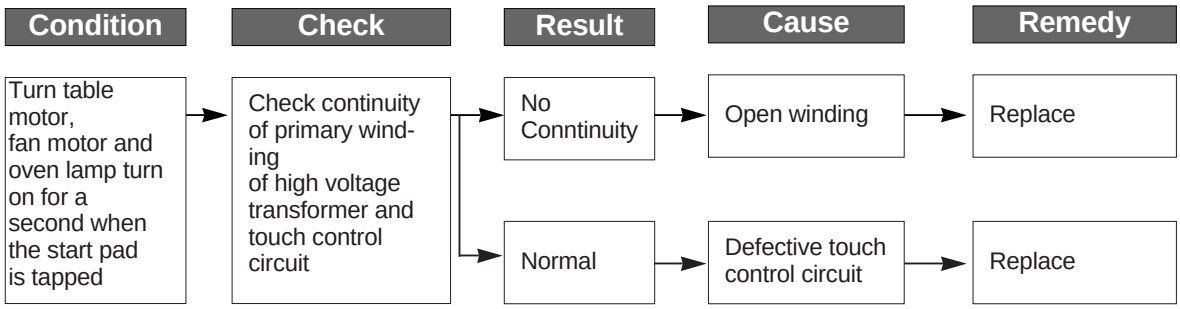

Condition
Check
Result
Cause
Remedy
15A fuse blows
Check continuity Interlock Monitor switch with door closed.
Continuity
Malfunction of Interlock monitor switch
Replace Primary Interlock Switch and Secondary Interlock Switch and Monitor Interlock Switch.
NOTE 1
No continuity
(Replace 15A fuse)
Check continuity of both Primary Interlock Switch contact with door partially open until interlock monitor switch contact close.
Continuity
Shorted contacrs of primary interlock switch.
Replace Primary Interlock Switch and Monitor Interlock Switch.
NOTE 1
Check continuity of primary winding of low voltage transformer.
0 Ω or infinite
Shorted of open winding
Defective high voltage transformer
Approx 110~130Ω (normal)
Disconnect one side of the lead wire connected from transformer to the high voltage capacitor and operate the unit.
Normal
Replace Low Voltage Transformer
Replace
12A fuse again blows
Defective high voltage capacitor
Replace

NOTE 1: All these switches must be replaced at the same time, please refer to page 22 and 23 for adjustment instructions.

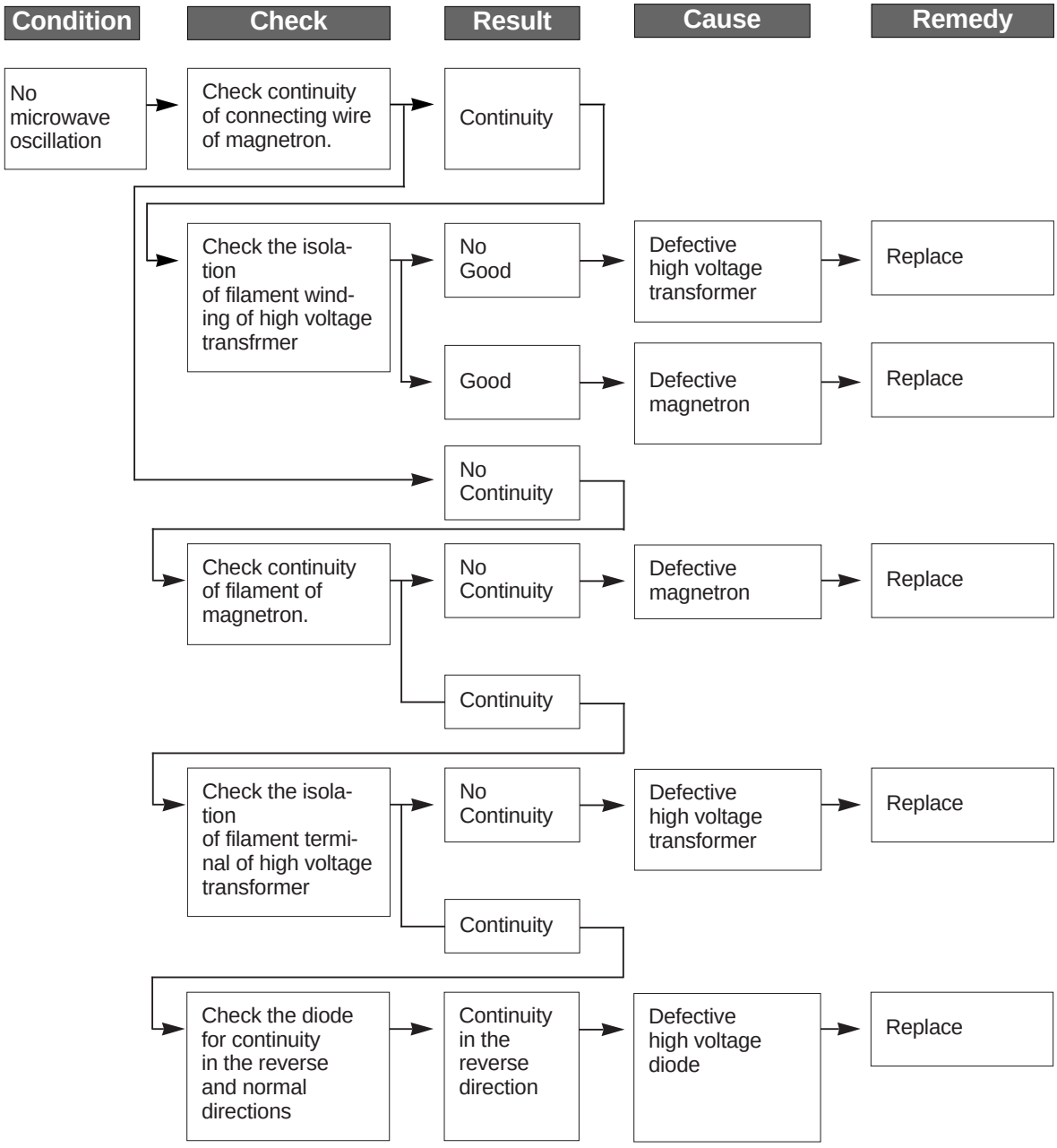


(TROUBLE 4) Display shows all figures selected, but oven does not start cooking, even though desired program and time are and start pad is taped.



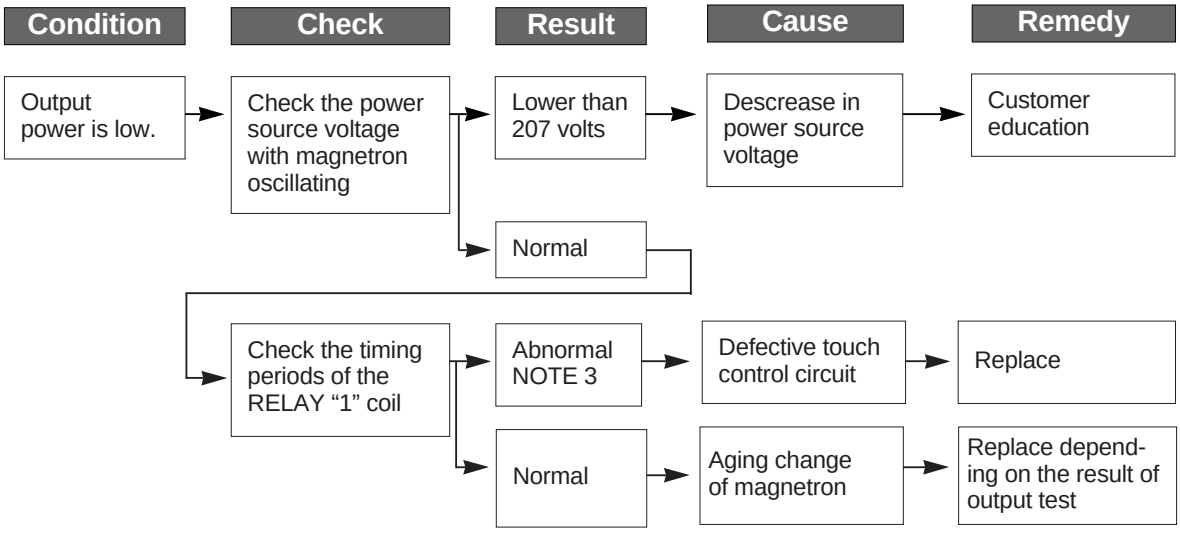


(TROUBLE 5) No microwave oscillation even though fan motor rotates.



(TROUBLE 6) Micrwave Output power is low .

First of all, check if output power is really low following “measurement of the microwave output power” on page 24.



NOTE 2: The following chart shows the timing periods of the RELAY “1”.

POWER	RELAY “1” ON TIME	RELAY “1” OFF TIME
0	0	29
1	3 (Seconds)	26 (Seconds)
2	5	24
3	8	21
4	11	18
5	14	15
6	17	12
7	20	9
8	23	6
9	26	3
HI	29	0

NOTE 3: Interlock monitor switch must be replaced when fuse is blown out.

COMPONENT TEST PROCEDURE

1. High voltage is present at the high voltage terminal of the high voltage transformer during any cooking cycle.

2. It is neither necessary nor advisable to attempt measurement of the high voltage.

3. Before touching any oven components or wiring, always unplug the oven from its power source and discharge the capacitor (see page 29).

1. High voltage transformer

(A) Remove connections from the transformer terminals and check continuity.

(B) Normal readings should be as follows:
Secondary winding .....Approx. 120.0Ω ± 10%
Filament winding .....Approx. 0Ω
Primary winding.....Approx. 0Ω

2. High voltage capacitor

(A) Check continuity of capacitor with meter on the highest OHM scale.

(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.

(C) A shorted capacitor will show continuous continuity.

(D) An open capacitor will show constant 9MΩ.

(E) Resistance between each terminal and chassis should be infinite.

3. High voltage diode

(A) Isolate the diode from the circuit by disconnecting the leads.

(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the diode terminals.
Reverse the meter leads and again observe the resistance reading. meter with 6V, 9V or higher voltage batteries should be used to check the front-back resistance of the diode, otherwise an infinite resistance may be read in both directions. A normal diodes resistance will be infinite in one direction and several hundred KΩ in the other direction.

4. Magnetron

For complete magnetron diagnosis, refer to "Measurement of the Microwave Output Power". (Page 24) Continuity checks can only indicate and open filament or a shorted magnetron. To diagnose for an open filament or shorted magnetron.

(A) Isolate magnetron from the circuit by disconecting the leads.

(B) A continuity check across magnetron filament terminals should indicate ohm or less.

(C) A continuity check between each filament terminal and magnetron case should read open.

5. Interlock monitor switch

The interlock switch can be checked with an ohmmeter. Isolate the switch and then connect the meter leads to the common (COM) and normally close (NC) terminals of the switch. The meter should indicate an open circuit with the door closed and a closed circuit with the door opened.

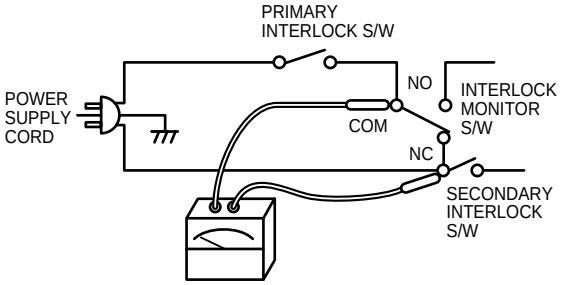
6. Primary and secondary interlock switch

The primary and secondary interlock switch can be checked with an ohmmeter. Isolate the switch and connect the meter leads to the common (COM) and normally open (NO) terminals of the switch.
The meter should indicate an openn circuit with the door opened and a closed circuit with the door closed. In case improper operation is indicated, make the necessary switch adjustment or replacement.

SAFETY INTERLOCK CONTINUITY TEST

• Disconnect the oven from the power supply.
• You can test continuity of safety interlocks and monitor switch by using switch tester or ohmmeter.
• The switch operation is checked by the lamp on/off of resistance zero/unlimited.
• The sequence of check is interlock monitor switch; primary and secondary interlock switches check.
• Make circuits like Fig. a, Fig. b, Fig. c for tests.

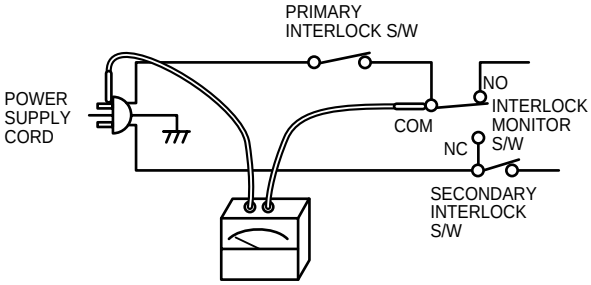
1) In case of interlock monitor check.
(Lamp on or zero resistance)



(ohmmeter)
– Fig. a –

Condition: 1) Door is opened.
2) Common terminal of the monitor switch disconnected.

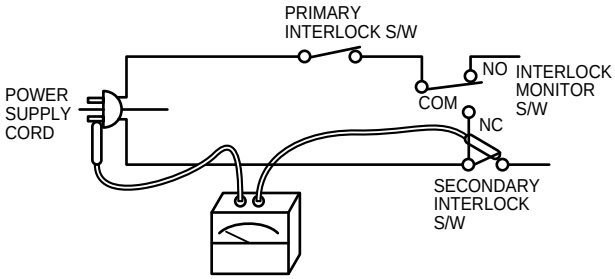
2) In case of primary interlock check.
(Lamp on or zero resistance)



(ohmmeter)
– Fig. b –

Condition: 1) Door is closed.

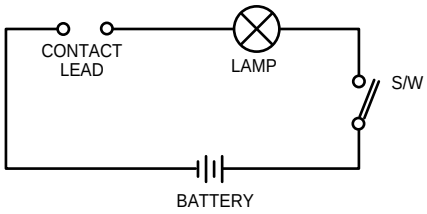
3) In case of secondary interlock switch.



(ohmmeter)
– Fig. c –

Condition: 1) Door is closed.

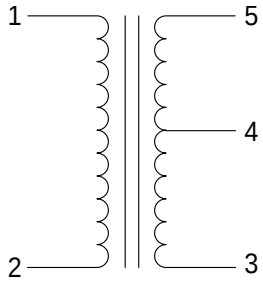
* (Schematic diagarm of S/W tester)



PRINTED CIRCUIT BOARD

1. CIRCUIT CHECK PROCEDURE
1) Low Voltage Transformer (DMR-602FS) Check.

The low voltage transformer is located on the P.C.B.
Measuring condition: Input voltage: 220V
Frequency: 60Hz

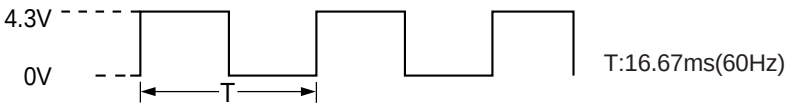


Terminal \ Voltage		LOAD	NO LOAD
3 – 5	60Hz Input	27 VAC	30VAC

NOTE 1: Secondary side voltage of the low voltage transformer changes in proportion to fluctuation of power source voltage.

NOTE 2: The allowable tolerance of the secondary voltage is within ±5% of norminal voltage.

2) Voltage Check

NO.	CHECK POINT	REMARK
1	IC1 PIN 7, 41, 42	5VDC
2	IC1 PIN 11	GND
3	IC1 PIN 23	
4	IC1 PIN 8 or 9	

Key check point

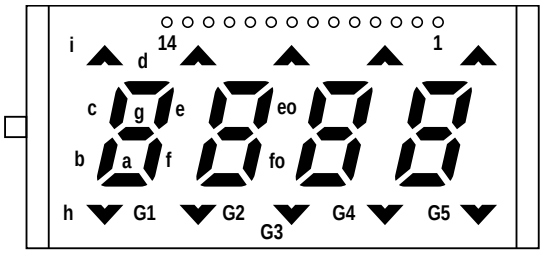
NO.	MEASURE POINT	WAVE FORM	REMEDY	REMARK
1	MP1	DC 5V ± 0.25	Replace VL1, EC1, C4, C6	NO LOAD
2	MP2	DC 14V ± 1.0	Replace D13, D14, EC2	NO LOAD

CHECK METHOD

NOTE : Each measure point must be measured with GND points.

3) Display problems

NO.	CAUSE	MEASUREMENT	RESULT	REMEDY
1	Defective Display	Refer to "The display trouble shooting data" below.		Replace P.C.B. assembly.



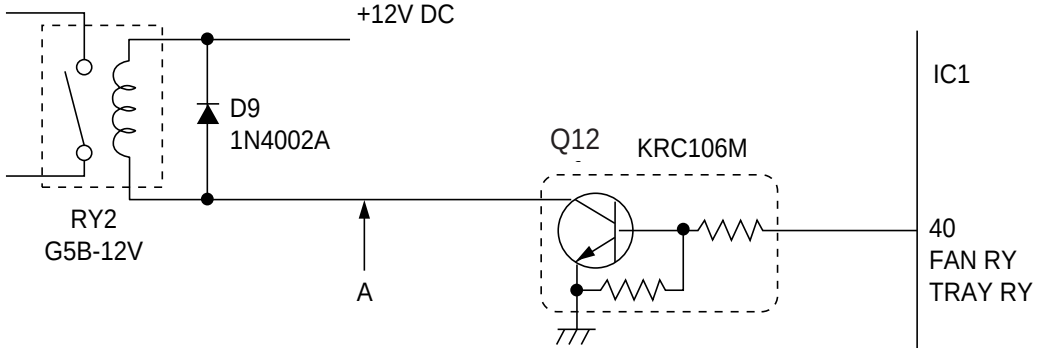
Display layout
(Top View)

The display trouble shooting data

TROUBLE	DISPLAY NAME & PIN NO.	MICOM OUTPUT IN PIN NO.
STAGE 1, LOCK don't come on.	Digit 1 (G1), 10	31
STAGE 2, NO don't come on.	Digit 2 (G2), 11	32
WEIGHT DEFROST, CUPS don't come on.	Digit 3 (G3), 14	30
TIME DEFROST doesn't come on.	Digit 4 (G4), 12	33
AUTO START, g don't come on.	Digit 5 (G5), 13	29
SEGMENT "a" doesn't come on from G1 to G5.	SEGMENT a, 7	20
SEGMENT "b" doesn't come on from G1 to G5.	SEGMENT b, 6	19
SEGMENT "c" doesn't come on from G1 to G5.	SEGMENT c, 5	18
SEGMENT "d" doesn't come on from G1 to G5.	SEGMENT d, 4	17
SEGMENT "e" doesn't come on from G1 to G5.	SEGMENT e, 3	16
SEGMENT "f" doesn't come on from G1 to G5.	SEGMENT f, 2	14
SEGMENT "g" doesn't come on from G1 to G5.	SEGMENT g, 1	13
LOCK, NO, CUPS, g don't come on.	LOWER BAR h, 9	15
STAGE1, STAGE2, TIME DEFROST, WEIGHT DEFROST, AUTO START don't come on.	UPPER BAR i, 8	21

4) When there is no microwave oscillation.

(1) When touching "START" pad, oven lamp does not turn on.
Fan motor and turntable motor do not rotate, but cook indicator in display comes on.
* Cause: RELAY "2" does not operate.



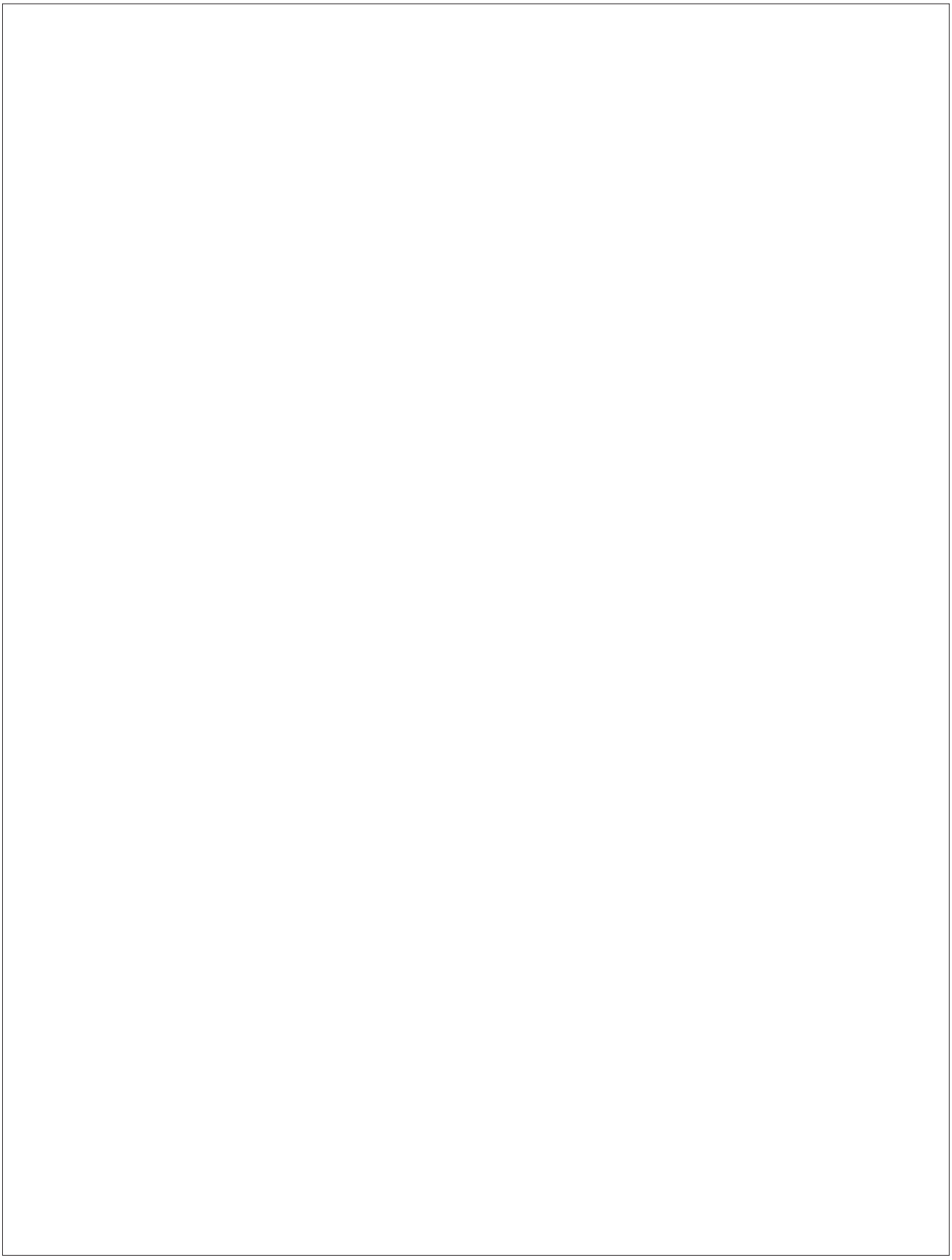
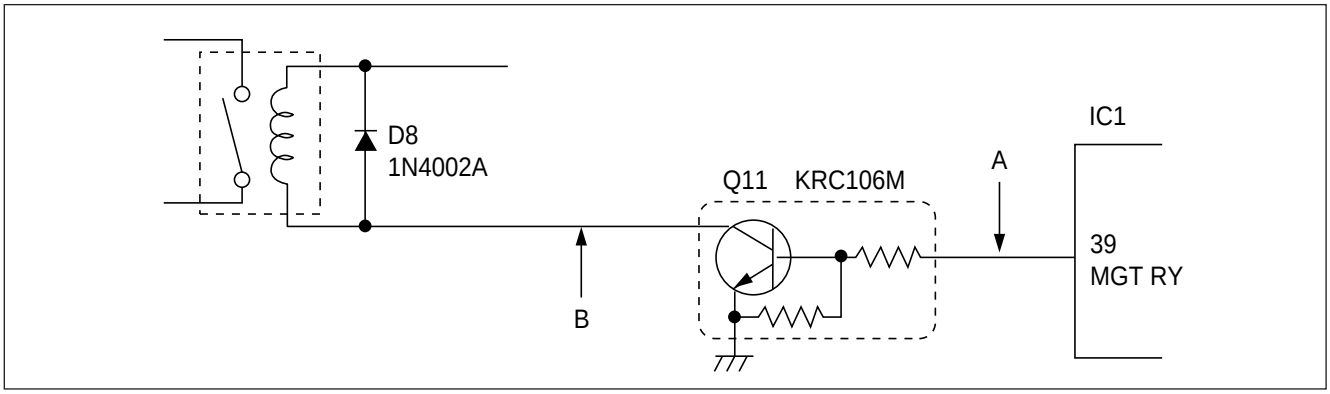


Fig. 6 Measurement Point

CHECK METHOD

STAGE \ POINT	A
RELAY "2" ON	GND
RELAY "2" OFF	+12V DC

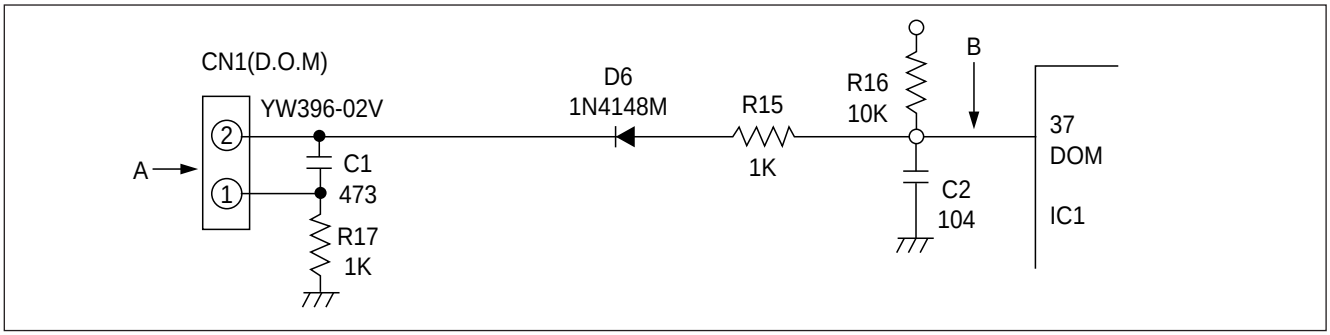
(2) When touching "START" pad, oven lamp turns on.
Fan motor and turntable rotate and cook indicator in display comes on.
* Cause: RELAY "1" does not operate.



CHECK METHOD

STAGE \ POINT	A	B
RELAY "1" ON	+5VDC	GND
RELAY "1" OFF	GND	+12VDC

5) When the door is opened during operation, the count down timer does not stop.

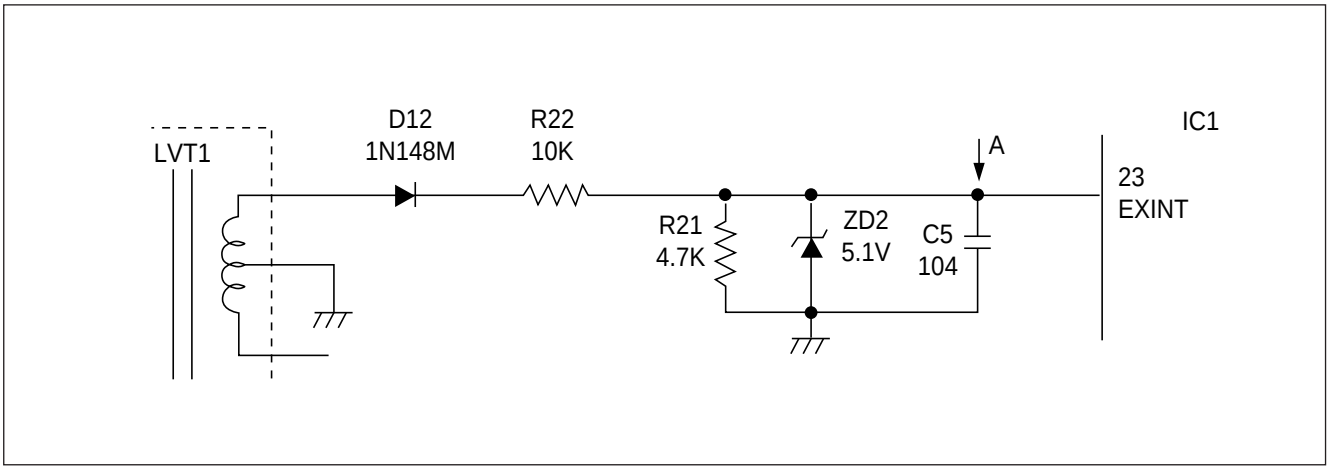


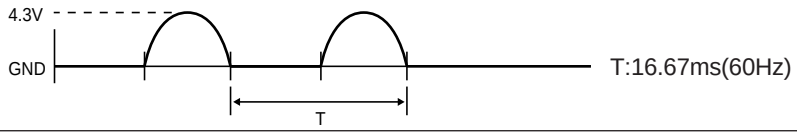
CHECK METHOD

STAGE \ POINT	A	B
1) DOOR OPENED	OPEN	5VDC
2) DOOR CLOSED	CLOSE	GND

CHECK NO.	METHOD	REMEDY
1	Check the stage (ON, OFF) of the secondary Interlock switch by resistance measurement.	Replace secondary interlock switch

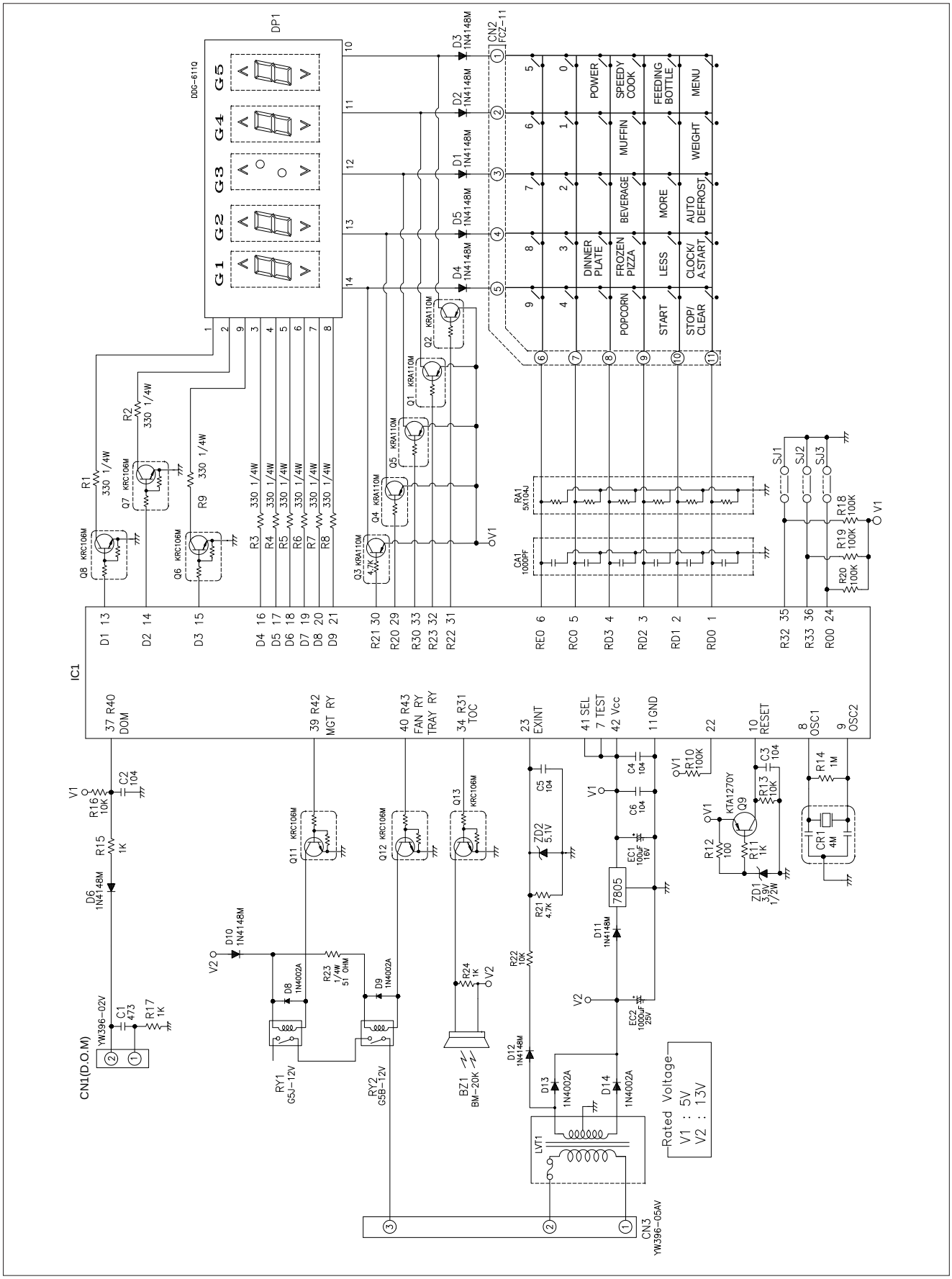
6) When the digital clock does not operate properly



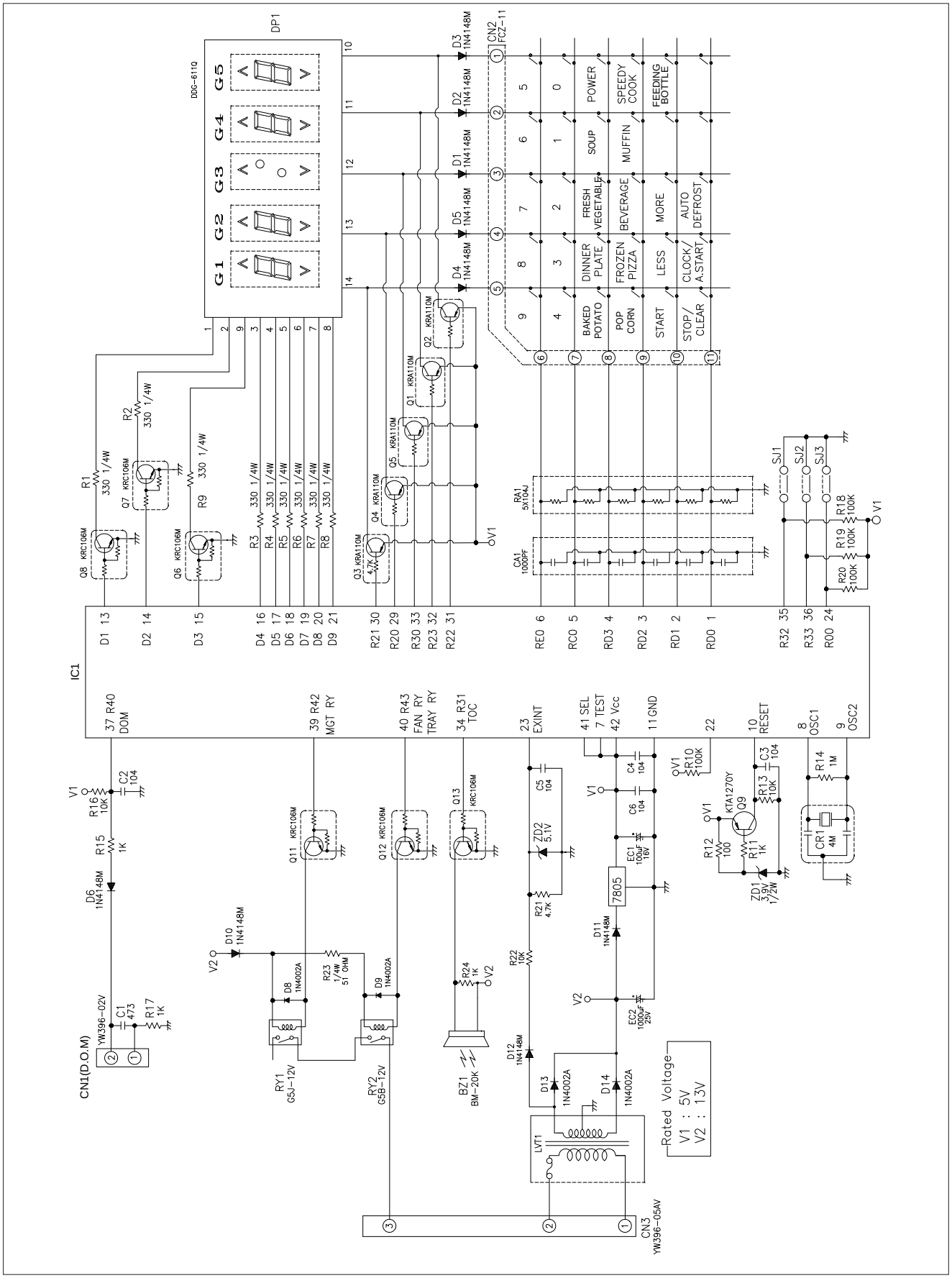
POINT	WAVEFORM
A	

If clock does not keep exact time, you must check resistor R21, R22 and capacitor C5.

2. P.C.B. CIRCUIT DIAGRAM(M-TYPE)

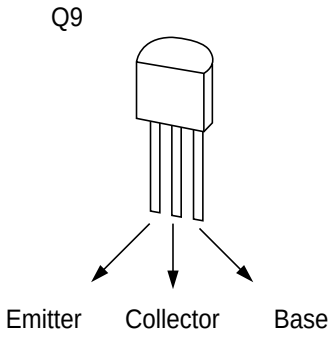


2. P.C.B. CIRCUIT DIAGRAM(Q-TYPE)

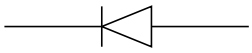


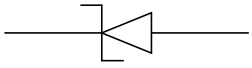
3. COMPONENT INFORMATION

1) Transistor



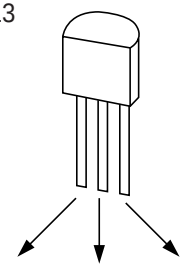
2) Diode and Zener Diode

DIODE Cathode (K)  ANODE (A) D1-D14

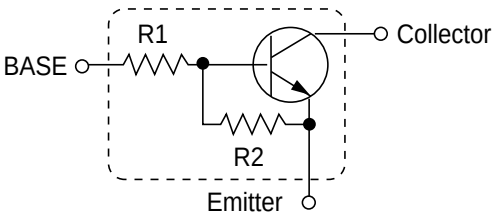
ZENER DIODE Cathode (K)  ANODE (A) ZD1,ZD2

3) Digital Transistor

Q1-Q8
Q10-Q13



* Internal circuit



TYPE \ RESISTOR	R1	R2
KRC106M	4.7KΩ	47KΩ
KRA110M	4.7KΩ	-

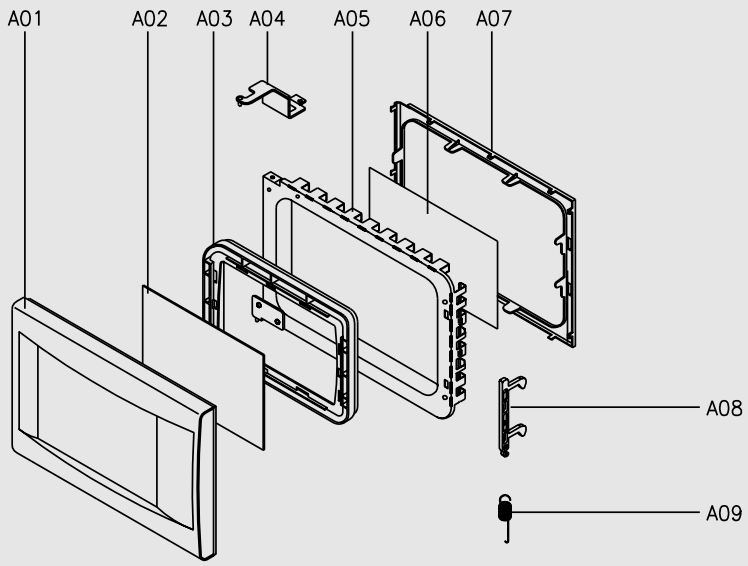
4. PRINTED CIRCUITS BOARD

5. P.C.B. LOCATION No.

NO	PART NAME	REF NO.	SPECIFICATION	PART CODE	Q'TY
1	RESISTOR	R11, R15, R17, R24	1K, 1/6W, 5%	RD-AZ102J-	4
2	RESISTOR	R13, R16, R22	10K, 1/6W, 5%	RD-AZ103J-	3
3	RESISTOR	R21	4.7K, 1/6W, 5%	RD-AZ472J-	1
4	RESISTOR	R10, R18, R19, R20	100K, 1/6W, 5%	RD-AZ104J-	4
5	RESISTOR	R14	1M, 1/6W, 5%	RD-AZ105J-	1
7	RESISTOR	R12	100, 1/6W, 5%	RD-AZ101J-	1
8	RESISTOR	R23	51, 1/4W, 5%	RD-4Z510J-	1
9	RESISTOR	R1,2,3,4,5,6,7,8,9	330 1/4W, 5%	RD-4Z331J-	9
10	R ARRAY	RA1	RGLD6X104J	RA-87X104J-	1
11	DIODE	D1-D6,D10,D11D12	1N4148M	DZN4148M-	9
12	DIODE	D7,D8,D9,D13,D14	1N4002A	DZN4002A-	5
13	DIODE ZENER	ZD2	5.1VB, 1/2W	DZTZ5R1B-	1
14	DIODE ZENER	ZD1	3.9VB, 1/2W	DZTZ3R9B-	1
15	TRANSISTOR	LVT1	DMR-602FS	5EPU035408	1
16	CAPACITOR CERAMIC	EC1	100MF 16V RSS	CEXF1C101V	1
17	CAPACITOR CERAMIC	EC2	1000MF 25V RSS	CEXF1E102V	1
18	P. C. B BARE	M152	M152	3514315400	1
19	LED DISPLAY	DP1	DDG611Q	DDDG611Q00	1
20	C ARRAY	CA1	F6 102Z	CN6XB-102M	1
21	TRANSISTOR	Q9	KTA1270Y	TZTA1270Y-	1
22	TRANSISTOR	Q1-Q5	KRA110M	TZRA110M--	5
23	TRANSISTOR	Q6-Q8, Q10-Q13	KRC106M	TZRC106M--	7
24	CONNECTOR WAFER	CN1	YW396-02V	3519150520	1
25	CONNECTOR WAFER	CN3	YM396-05AV	3519150510	1
26	CONNECTOR WAFER	CN2	FCZ254-11	441M367160	1
27	CONNECTOR WAFER	RY3(COIL PART)	35312-0370	3519105900	1
28	BUZZER	BZ1	BM-20K	3515600100	1
29	REGULATOR	VL1	MC7805C	1CPMC7805C	1
30	CAPACITOR CERAMIC	C1	50V 473 AXIAL	CCZF1H473Z	1
31	CAPACITOR CERAMIC	C2, C3, C4, C5, C6	50V 104 AXIAL	CCZF1H104Z	5
32	RESONATOR	CR1	KBR-4.0MKSTF	5PKBR40MKS	1
33	SW RELAY	RY1	G5J-1-TP-M12V	5SC0101108	1
34	SW RELAY	RY2	G5B-DC12V	5SC0101110	1
35	IC MICOM	IC1	HD404054A34S	147S611MQ1	1

EXPLODED AND PARTS LIST

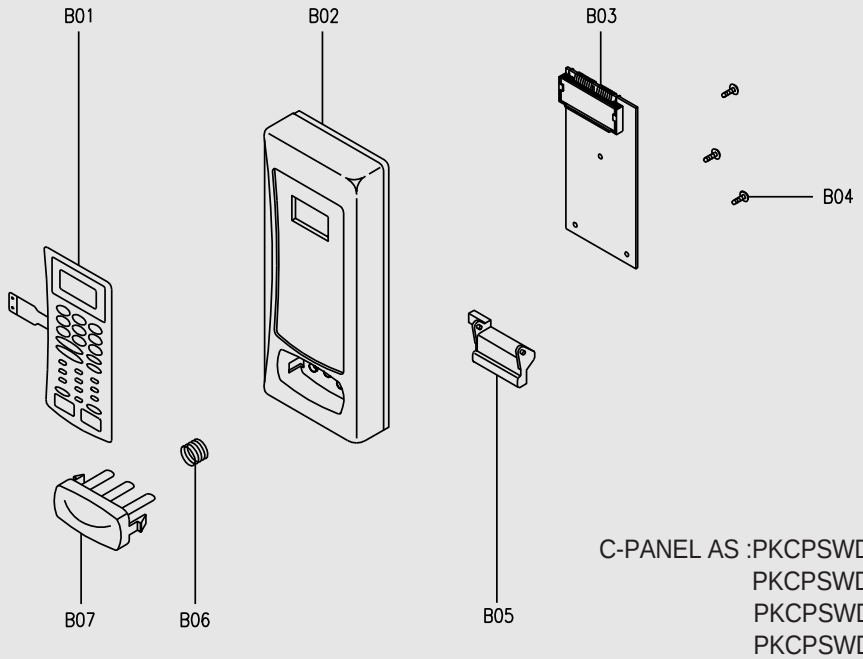
1. Door Assembly



DOOR AS : 3511707940 (KOR-618M,Q)
3511707950 (KOR-619M,Q)

REF NO.	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARKS
A01	FRAME DOOR	3512202030	ABS	1	KOR-618M,Q
		3512202040	ABS		KOR-619M,Q
A02	BARRIER-SCREEN *O	3517003050	ACRYL	1	
A03	SUPPORTER BARR-S *O	3515304610	PP	1	
A04	STOPPER HINGE *T AS	3515201500	KOR-6115OS	1	
A05	DOOR WELD AS	3511705500	KOR-6115OS	1	
A06	BARRIER-SCREEN *I	3517002800	POLYESTER T0.1	1	
A07	GASKET DOOR	3512300200	PP	1	
A08	HOOK	3513100700	POM	1	
A09	SPRING HOOK	3515101300	PW1	1	

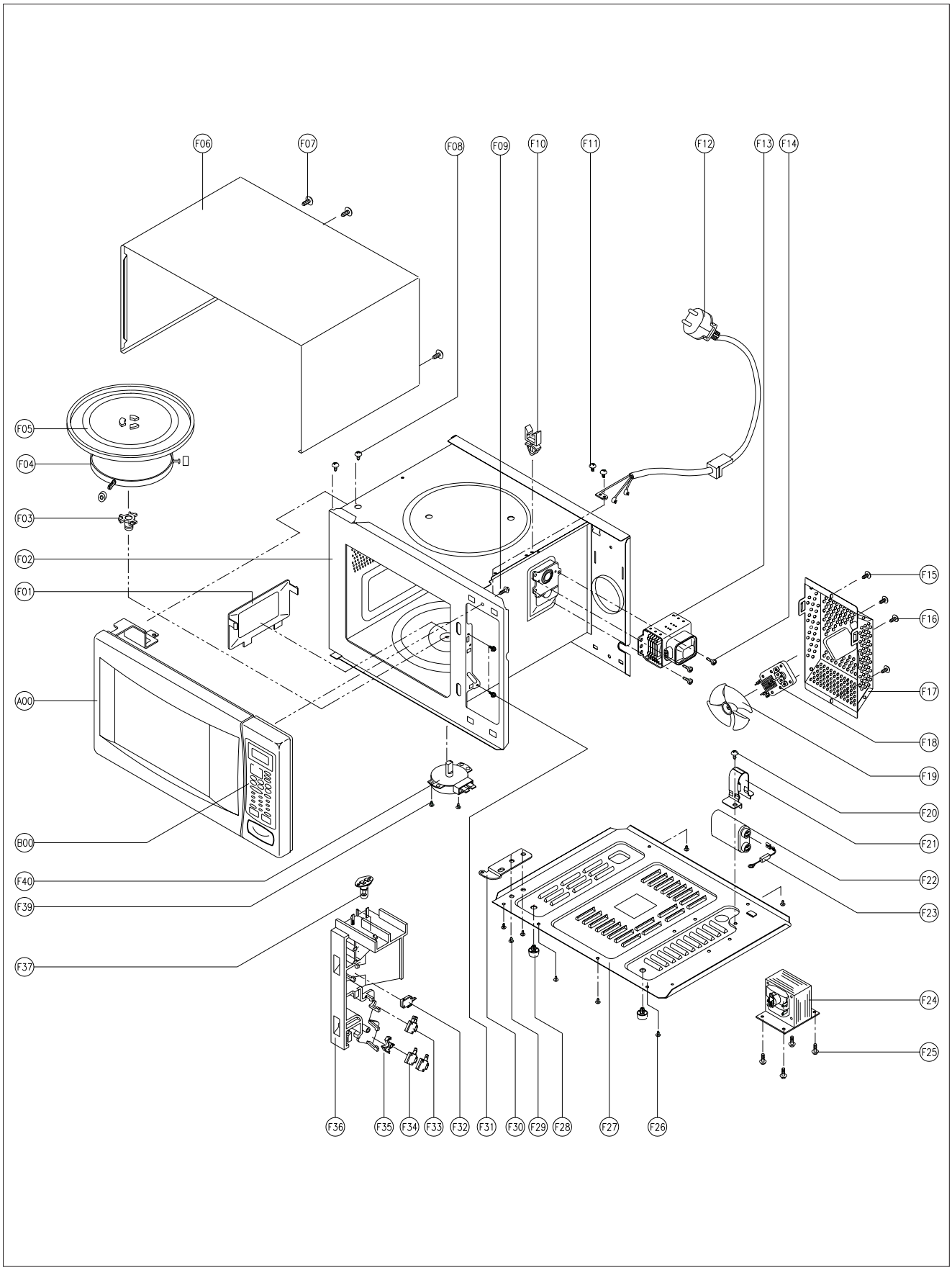
2. Control Panel Assembly



C-PANEL AS :PKCPSWD620 (KOR-618M)
PKCPSWD820 (KOR-619M)
PKCPSWD520 (KOR-618Q)
PKCPSWD720 (KOR-619Q)

REF NO.	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARKS
B01	SWITCH MEMBRANE	3518519700	KOR-618QOS	1	Q-TYPE
		3518519710	KOR-619QOS		
		3518519720	KOR-618MOS	1	M-TYPE
		3518519730	KOR-619MOS		
B02	CONTROL-PANEL	3516709840	ABS	1	KOR-618'S
		3516709850			KOR-619'S
B03	PCB MAIN MANUAL AS	PKMPMSCB00	SUS 301 T0.5	1	
B04	SCREW TAPPING	7621401211	T2S 4X12 MFZN	1	
B05	LEVER DOOR OPEN	3513701420	ACETAL	1	
B06	SPRING BUTTON	441G430171	SWP DIA. 0.7	1	
B07	BUTTON DOOR OPEN	3516904430	ABS H-2938	1	KOR-618'S
		3516903640			KOR-619'S

3. EXPLEDED VIEW



4. PARTS LIST

NO	PART NAME	PART CODE	DESCRIPTION	Q'TY	REMARKS
A00	DOOR AS		EXPLODED AND PARTS LIST	1	
B00	CONTROL PANEL AS		EXPLODED AND PARTS LIST	1	
F01	COVER WAVE GUIDE	3511403200	PP	1	
F02	CAVITY AS	3516104800	KOR-61150S	1	
F03	COUPLER	3517400600	PPS	1	
F04	GUIDE ROLLER AS	3512510600	KOR-61150S	1	
F05	TRAY	3517203600	GLASS	1	
F06	CABINET	3510801300	PCM T0.6	1	
F07	SCREW TAPPING	7112401011	T1 TRS 4X10 MFZN	3	
F08	SCREW SPECIAL	7272400811	TT3 TRS 4X8 MFZN	2	
F09	SCREW TAPPING	7122401211	T2S TRS 4X12 MFZN	1	
F10	CLAMP POWER CORD	4413A90012	NYLON 66	1	
F11	SCREW TAPPING	7112401011	T1 TRS 4X10 MFZN	1	
F12	CORD POWER AS	35113ACNM5	3X1.0 120-RTML	1	
F13	MAGNETRON	3518002200	2M218H(MF) I	1	
F14	SCREW SPECIAL	3516003700	T2S FLG HEX 4X13 SE MFZN	3	
F15	SCREW TAPPING	7112401011	T1 TRS 4X10 MFZN	2	
F16	SCREW SPECIAL	7601400811	PAN 4X8 PW MFZN	2	
F17	COVER *B	3511402500	SBGH T0.8	1	
F18	MOTOR SHADED POLE	3963324500	MW10GA-R02	1	
F19	FAN	3511800300	PP+30% GLASS	1	
F20	SCREW TAPPING	7272400811	TT3 TRS 4X8 MFZN	1	
F21	HOLDER HV CAPACITOR	3513001900	SECC T0.8	1	
F22	CAPACITOR HV	441L267010	2100VAC 0.70µF	1	
F23	DIODE HV	4416V24000	HVR-1X-32B	1	
F24	TRANS HV	3518107400	JY-N60P0-61T	1	
F25	SCREW SPECIAL	3516002700	T2S FLG HEX 4X13 SE MFZN	4	
F26	SCREW TAPPING	7112401011	T1 TRS 4X10 MFZN	5	
F27	BASE	3510308700	SBHG T0.8	1	
F28	FOOT	3512100900	PP DASF-130	2	
F29	SCREW TAPTITE	7272400811	TT3 TRS 4X8 MFZN	1	
F30	STOPPER HINGE *U	3515201100	SCP-1 T2.5	1	
F31	SCREW TAPPING	7122401211	T2S TRS 4X12 MFZN	1	
F32	SWITCH MICRO	4415A17352	VP-533A-0F	1	
F33	SWITCH MICRO	4415A66600	VP-532A-0F	1	
F34	SWITCH MICRO	4415A17352	VP-533A-0F	1	
F35	LEVER LOCK	3513701300	POM	1	
F36	LOCK	3513805700	POM	1	
F37	LAMP	3513601600	BL 240V 25W T25	1	
F39	SCREW TAPPING	7121400611	T2S PAN 4X6 MFZN	2	
F40	MOTOR SYNCRO	3966310100	GM-16-24FD12	1	

DAEWOO

DAEWOO ELECTRONICS CO., LTD.

686, AHYEON-DONG MAPO-GU SEOUL, KOREA
C.P.O. BOX 8003 SEOUL, KOREA
TELEX: DWELEC K28177-8
CABLE: “DAEWOOELEC”
FAX: 02) 360-8184
TEL: 02) 360-8183
http://www.dwe.daewoo.co.kr

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